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PAPERS  
IN  
COLONIES AND TRADE.

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*The Sum of TWENTY GUINEAS was voted in December 1807, to Mr. EZEKIEL CLEALL, of West Coker, near Yeovil, in Somersetshire, for his Machine for beating out Hemp-seeds and Flax-seeds, likely to be useful in Canada.*

*The following Communication was received from him, an explanatory Engraving is annexed, and a Model of this Invention is placed in the Society's Repository.*

SIR,

I MADE a model of a machine for thrashing out hemp-seed and flax-seed, in the year 1803; and in the year 1805, I had a real machine made after the plan of the model, by Mr. John Wadman, carpenter and hemp-merchant. The said machine has been since tried and approved by many hemp and flax-merchants.

I now send the model for the inspection of the Society, and leave the event thereof to their decision. It does not injure the stalk of the hemp so much as the common mode of thrashing out the seed, and consequently leaves it much better for scaling.

I am, Sir, your humble Servant,

EZEKIEL CLEALL.

*West Coker, near Yeovil, Somerset.*

*March 22, 1808.*

SIR,

**I**N compliance with your request, I have sent certificates of the success of my machine in practice for thrashing out hemp-seed and flax-seed, which being signed by people of respectability who have used it, I hope will prove satisfactory.

I am, Sir,

Your humble Servant,

EZEKIEL CLEALL.

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**W**E whose names are hereunto subscribed, do certify, that we well know Mr. Ezekiel Cleall, of West Coker; that we have many times seen his machine at work, in thrashing out hemp-seed and flax-seed, and think it likely to be of great public utility; inasmuch as two women, whose wages and allowance never exceeds one half of what are allowed to two men, will do as much work in any given time as such two men.

That the seeds thrashed by this machine are not so much bruised or injured as by the old or common way, and the hemp and flax are preserved from many injuries which they suffer from the old method.

In witness whereof, we have hereunto added our signatures.

JOHN WADMAN.  
JAMES WADMAN.  
JOHN BAKER.  
JOHN PINNEY.  
JOHN CHAFFEY.

*West Coker, Feb. 1807.*

TO C. TAYLOR, M. D. SEC.

SIR,

SIR,

THE machine, of which a model was sent to the Society some months ago, must be used with eight flails, two on each arm, for beating out hemp-seed.

When required to be used for beating out flax-seed, the above eight flails must be taken out, and four beaters put in their place.

The height of the machine from the floor to the top of the board on which the flax or hemp is laid, is two feet; the breadth, two feet ten inches; the length of the board, four feet four inches; the length of each of the arms, from the axis of the machine, is three feet two inches; the flails for the hemp-seed, two feet two inches long; the heights of the up-rights, seven feet two inches; the beaters for the flax-seeds, are each one foot three inches long, and seven inches broad.

The machine will thrash, in one day, as much hemp as grows on an acre of land, and other crops in proportion; and the work is done with less than half the expence of thrashing in the usual way.

I am, Sir,

Your obedient Servant,

EZEKIEL CLEALL.

*West Coker, Aug. 13. 1807.*

TO C. TAYLOR, M. D. SEC.

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*Reference to the Engraving of Mr. Cleall's Machine for beating out Hemp-seeds and Flax-seeds. Pl. 11. Fig. 1, 2.*

Fig. 1. Represents the machine for beating out hemp-seeds, in which A is the table or board on which the hemp is to be placed;

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placed; B the axis in which the four arms, C C C C, are fixed; D D D D, eight single flails, moving upon four pins near the extremities of the four arms; these flails diverge from the pins on which they move, so that two of them united on each arm are nearly in the form of the letter V. E is the winch or handle by which the machine is put in motion; F F, two upright pieces of wood to sustain the axle of the machine; G, an upper cross-piece, to secure the uprights firm; H H, the two bottom pieces or sills, in which the two uprights are mortised, also the two smaller uprights which support the board or table A; I I, two lower cross-pieces to secure the machine firmly; K K, two levers on which the table A rests, and by which it may be raised or lowered as thought necessary by iron pins, at K K, passing through these levers and the two uprights.

When the machine is used, the hemp must be laid on the table A, and moved about in different directions by the person who holds it, whilst another person turns the machine by the handle E; the flails D of the machine fall in succession on the hemp; as the axis moves round they beat out the seeds as different surfaces of the hemp are exposed on the table, and when the seeds are all beaten out from one parcel of hemp, a fresh quantity is applied upon the table.

Fig. 2. Represents one of the flax-beaters, which is made of a solid piece of wood, one of which is attached instead of the two flails, to every arm, when the machine is employed for beating out flax seeds, as they require more force to separate them from the flax plant.

*The*

*The SILVER MEDAL of the Society was this Session voted to WILLIAM BOND, Esq. of Canada, for his Observations on the Culture of Hemp, and other useful Informations, relative to Improvements in Canada.*

*The following Communication was received from him, and an explanatory Engraving of his Machine for breaking Hemp is hereunto annexed, and a Model of the Machine is preserved in the Society's Repository.*

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*Observations on the Culture of Hemp, the Breeding of Rabbits, Guanaco, &c.*

#### HEMP.

THE culture of hemp in Upper Canada is no doubt one of the most desirable objects with every person of discernment settled there, and more particularly so with those of this description in our mother country; and though there are so many millions of acres so well calculated to the growth of this highly valuable article, yet I do not expect much progress therein for some time, for the following reasons.

The part of the country the best calculated for the growth of hemp is so lately and in so small a degree occupied, that few have begun to use the plough, but depend upon raising a sufficiency of grain by harrowing only; in this they are not disappointed for two or three crops;—in the mean time they clear away fresh fields from the woods, many of them to a large extent, which take up so much time in fencing and dressing, that few of the farmers have been able to raise more than needful for their own families' consumption, and for the use of their neigh-

bours; indeed they are ignorant as to the growth and management of hemp, and in general so poor, that they cannot afford to raise any thing for sale that will not bring them ready money as soon as brought to market; and grain brings such a high price in cash, that few farmers are inclined to turn their attention to any other article. Another obstacle is, there being no person or persons appointed to buy small quantities of hemp, and pay ready money for the same.

The tract of rich hemp land in Upper Canada is that part west of Yonge Street,\* and north of Dundas Street,† and partly inclosed by lakes Ontario, St. Clair, Huron and Simcoe, and to the east and north east almost as far as Grand or Ottaway River, and to within a few miles of the south and south east side of Lake Huron. I have not failed to make annually from one to three journeys through this tract; I have crossed it in all directions with Indian guides, great part of which no white man, except myself, has ever set foot in; and I find, that chief of the interior part consists of a rich deep black soil, which I am well convinced, when well inhabited with farmers, will become one of the finest countries in all his Majesty's territories for the growth of hemp.

It is only about five years since this valuable tract began to be occupied at all, and though by industrious farmers, yet by such as have brought little to the country. A few cows and sheep, a *pair* of plough-oxen, one or two horses, a small stock of farming tools, such as two or three axes, as many hoes and iron wedges, one or two ox-chains,

\* A street leading from York, the seat of government, to the navigable waters of Lake Simcoe.

† Leading to the River Thames.

being

being the most that a new settler (generally speaking) possesses on his arrival ; with these they make a shift to clear away the woods, and divide and fence the land with split timber into fields, and they are greatly encouraged to continue clearing away the forest, in consequence of the high price given for the ashes by the pot-ash makers : this eventually will be vastly in their favour, in future, when hemp becomes the object, as it gives time for the roots and stumps of trees to rot, their stock of horses and oxen to increase, which is essentially necessary before the farmer can expect to be successful in the growth of hemp. It is in this progressive manner that this fine country will be settled ; the nature of things demands the pursuit ; and the first settlers are in a situation capable of putting the same in practice ; their stock of horses and oxen are sufficiently strong to work the ground a second time over, tear up the stumps and roots, plough and pulverize the soil ; and until the ground is brought to this state, it is not fit for hemp, as hemp, in its nature, depends chiefly upon a tap root, and when this root is interrupted in its progress downwards, it will throw out horizontal ones, which produce horizontal branches also, and the open spaces round the stumps of the trees admitting so much air, permits these branches to grow to such a length and strength as greatly to injure the bark or hemp of the stem. Such hemp, when it comes to the hackle, breaks off, and drags away at the knobs of the branches, so as to leave it short, and make a very great waste ; notwithstanding, if there was a sure market for as small a quantity as 50lb. there are few farmers but would try the experiment ; and if one was more successful than the rest, his neighbour would endeavour to find out the reasons why it was so ; thus, step by step, the knowledge in the manage-

ment of hemp would be greatly extended, the farmer would generally be in possession of fresh seed, and when grain becomes less an object, he would feel no fear in turning his attention to the culture of hemp upon a large scale; and, in order to encourage the farmer, it would prove highly advantageous to take in any quantity, great or small, of sound hemp, assorted perhaps into four or five qualities, according to its length, which will vary for some years to come, for the reasons before given.

The high price of labour, owing in some measure to the high price of grain, is such, that hemp, agreeable to the present regulations, is not an object with the farmer; if an addition of about a third of the present price was given, it would be an inducement for the farmers to cultivate their old fields in a more spirited manner, which bounty might be taken off again, when grain becomes less an object than it is at present, which will soon be the case in time of peace, and no doubt will affect the price of hemp in proportion in the English market.

In all new countries where labourers are scarce, we find many contrivances calculated for the purpose of reducing labour, more for the sake of expedition than ease; such, for instance, as the saw-mill, the hoe-ploughs, scythe and cradle for cutting and gathering grain, the wooden machine drawn (round by one horse) for thrashing grain, the iron shod shovel, drawn by oxen, and held by two handles, as a plough, for the purpose of levelling the roads, &c. &c. Nor are the Americans, or other settlers &c. in this country, fond of any work that needs violent exercise of the body, which the breaking of hemp in the old way certainly occasions, in consequence of requiring a cross motion of each arm, which makes the breakers complain of a pain about the short ribs on the side they hold the hemp;  
and

and on the opposite side a little under the shoulders, so that breaking of hemp in the old way is a great obstacle to its increased culture. To render labour, therefore, somewhat more easy and expeditious, is an object worthy the first attention, and I consider it practicable at a small expence, and have sent to the Society a model of a machine for this purpose.

I have observed among the clothiers' and fullers' machinery, great power and rapid motion proceeding from what is commonly called a dash wheel, erected across a stream of rapid water, the flies or float boards of which are fixed in the octangular axis, from fifteen to twenty-five feet in length, and from three and a half in depth, each flie. I have seen many corn mills in Upper Canada, with no other water-wheels than such as the above described, which save a vast expence in raising dams, &c.

There are a number of streams in that part of Canada, which I have endeavoured to describe, (as to the practicability of the various ways of cultivation) that are well calculated for such wheels; and where these streams or rivers are not too wide, the axis of the wheel might be extended across so as to reach the land on each side, where I prepare the breakers to be fixed to go by a tilt the same as a forge-hammer, and such a simple piece of machinery would not cost more than 70 or 80 dollars, as little iron would be wanted, and timber we have for nothing; and when in motion would employ four breakers and two servers, from whom I should expect as much good work as fifteen or sixteen persons could possibly do in the old way, and that without much bodily labour.

Mills for breaking hemp, on the very same principle as that of a saw-mill, as to motion only an addition of an iron

crank, so as to run with two cranks instead of one, with something of a larger sweep than that of a saw-mill, would be of vast utility in a neighbourhood of a large growth of hemp, and would not cost more than a common saw-mill, as the brakes of the frame continue in motion the same as that of a saw-mill, twenty men might be employed, who would do as much as fifty or sixty could do in the old way, and with much more ease and pleasure to themselves; and this is not the only advantage that would result from such mills; it would cause something of a social meeting, which the youth would be particularly fond of. At such meetings all the defects respecting the culture and management of hemp would be examined into, and those who raised the best would become ambitious, and try to excel each other; thus we might reasonably expect that Upper Canada would far exceed all other countries in the world for the growth of good hemp.

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*Reference to the Engraving of Mr. Bond's Machine for breaking Hemp. Pl. 11, Fig. 3, 4.*

Fig. 3. *a*. Represents the axis of a water-wheel, on which is fixed a trunnion of four lifters *b b b b*, each of which lifters raise in succession a lever *c*, which, by means of a chain connected with it pulls down another lever *d*, and thereby raises the upper part of the double brake *e*; as each lifter of the trunnion passes the lever *c*, it allows the upper part of the brake to fall upon the hemp placed on the lower part of the brake *f f*, and by its weight and teeth intersecting the teeth of the lower brake *f f*, the woody parts of the hemp plant are separated by repeated strokes from the filaments

or

or fibres of the hemp proper for use, and completes the first operation necessary in the preparation of hemp ; *g* is a table on which the woody parts of the hemp fall, and which table gives security and strength to the frame ; *h h h h* are the four legs or supports of the frame.

Fig. 4. Shews a section of the teeth of one half of the double brake abovementioned : it is betwixt the upper and lower rows of these teeth that the breaking of the hemp takes place, by the repeated rise and fall of the upper part of the brake upon it.

Fig. 5. Shews the upper part of the brake, in which *z z* shew the two rows of teeth, *k k* the two pins on which it is moved, *l l* the part to which the chain which raises the upper part of the brake is attached. After the breaking of the hemp, it is wholly finished for use by scutching or swingling, an operation which may be either performed by the hand or machinery, and is easily executed by either mode.

The machinery for breaking hemp should be removed from the rivers previous to the beginning of the frosts.

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#### THE WARREN RABBIT.

To include the interest of the colonists and the mother country also in one and the same pursuit, is not only laudable, but most likely to succeed, especially where only a trifle of property of the individuals or of the public is wanted to set the bountiful hand of Nature to work in a country where animal subsistence, and a suitable climate calls for the industrious husbandman, who may in various ways be useful to himself and his country.

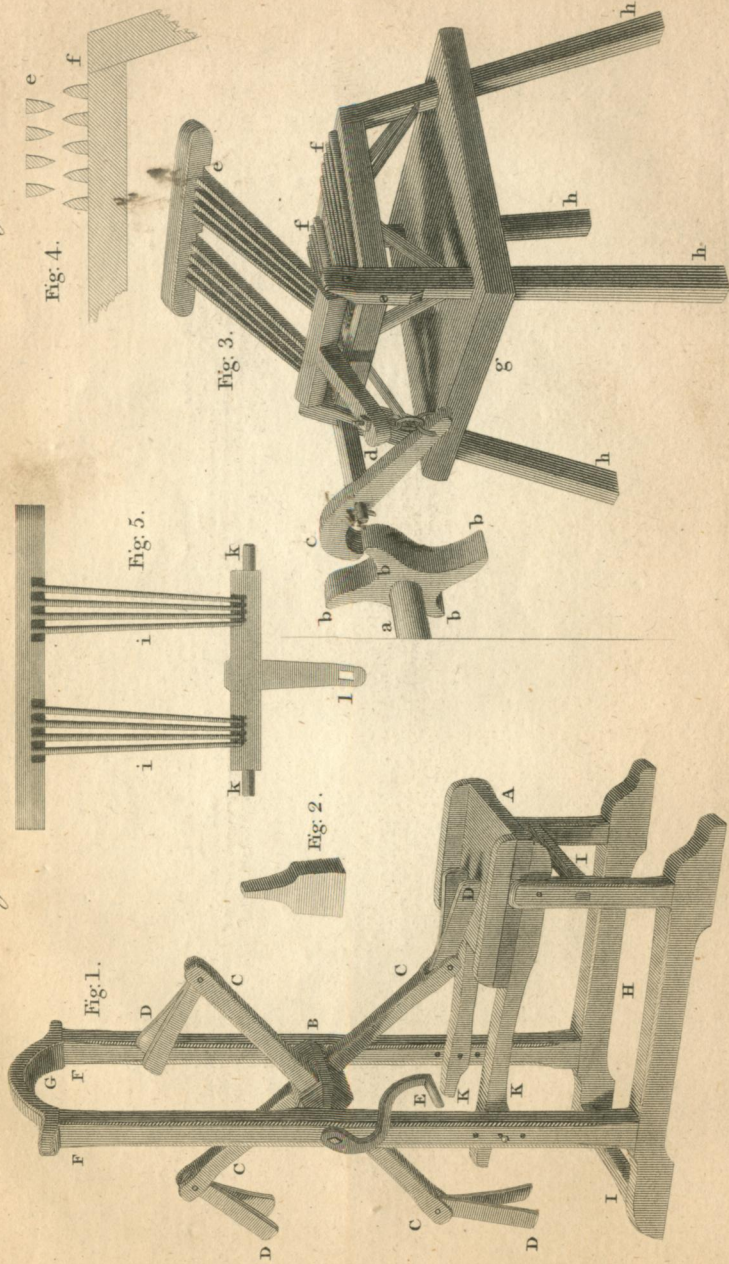
In my travels through America, I have often been surprised that no attempt has been made to introduce, for the purpose of propagation, that useful little animal, the warren rabbit, of such vast importance to the hat manufactory of England. It is chiefly owing to the fur of this animal that the English hats are so much esteemed abroad. It is a fact well known amongst the hatters, that a hat composed of one half of coney wool, one sixth old coat beaver, one sixth pelt beaver, and one sixth Vigonia wool, will wear far preferable to one made of all beaver, as it will keep its shape better, feel more firm, and wear bright and black much longer.

The value of the coney wool, the produce of the united kingdom only, is not less, I will venture to say, than 250,000*l.* per annum; but the quantity is much diminished, owing to the banishment and persecution they meet with on every side, and so many small warrens taken in for grain land; in consequence of which it is time, that some protection should be afforded, if possible, to that important branch of British manufactory (in which coney wool is used) from suffering any inconvenience in the want of so essential an article, and the accomplishment of this grand object I conceive perfectly easy.

General Observations.—When I speak of the warren rabbit, I have to observe, that there are in England, as well as in most parts of Europe, three other kinds, viz. the tame rabbit, of various colours, the fur of which is of little value, except the white; the shock rabbit, which has a long shaggy fur of little value; the bush rabbit, like those of America, which commonly sits as a hare, and the fur of each is of a rotten inferior quality.

To return to the warren rabbit.—There are two sorts in  
respect

*Mr. Chadli's Machine for Thrashing Hemp. Mr. Bond's Machine for Breaking Hemp.*



respect to colour, that is, the common grey, and the silver grey, but little or no difference in respect to the strength and felting qualities of the fur. The nature of this animal is to burrow deep in sandy ground, and there live in families, nor will they suffer one from a neighbouring family to come amongst them without a severe contest, in which the intruders are generally glad to retire with the loss of part of their coats, unless when pursued by an enemy, when they find protection.

It is scarcely worth while for me to mention a thing so generally known, viz. that rabbits, particularly those of the warren, are the most prolific of all other four-footed animals in the world, nor do I apprehend any difficulty would attend the exporting this little quadruped with safety to any distance, provided it was kept dry, and regularly supplied with clean, sweet food, and a due regard to the cleanliness of the boxes or places of confinement.

Twelve or fifteen pair of these valuable animals taken to Upper Canada, and there inclosed within a small space of ground suitable to their nature, but furnished with a few artificial burrows at the first, by way of a nursery, spread over those now useless plains, islands, and peninsulas, so well calculated to their nature, would, I will make bold to say, the eighth year after their introduction, furnish the British market with a valuable raw material, amounting to a large sum, increasing every year with astonishing rapidity, so as to become, in a few years, one amongst the first of national objects.

It may be supposed by some, that the above project is magnified beyond possibility, or even probability, but from the serious attention I have paid to the subject, these many years past, as to all points for and against, leaves no room  
to

to accuse myself of being too sanguine, for if properly managed a few years at the first, I cannot find a single thing likely to interrupt their progress.

Some idea of the astonishing increase of the rabbit may be had from the following facts:—

An old doe rabbit will bring forth young nine times in one year, and from 4 to 10 each time; but to allow for casualties, state the number at 5 each litter.

In nine months . . . . .	45
The females of the first litter will bring forth five times the proportion, of which is $2\frac{1}{2}$ female's produce	62
Those of the second litter 4 times produce . . . .	50
Ditto of ditto third ditto 3 ditto ditto . . . .	37
Ditto of ditto second ditto 2 ditto ditto . . . .	25
<hr/>	
Total in one year from one pair . . . . .	219

The third female race of the old dam and the second of the first litter, seldom breed the first year, but are early breeders in the spring following, when we might expect an increase of the whole in proportion to the first pair, if properly attended to and protected.

It is generally allowed, that hares are not more than one fourth as prolific as rabbits, notwithstanding, agreeable to an experiment tried by Lord Ribblesdale, who inclosed a pair of hares for one year, the offspring was (as I have been credibly informed) 68 : these animals, could they be exported to Upper Canada with safety, and there protected within inclosures for a few years, would soon after spread over a large extent of country : the fur is nearly as valuable as that of the rabbit.

In

In that part of Upper Canada within the 45 degrees of north latitude, and the southern and western boundaries, the climate is nearly the same as that of England, a little hotter a few days in summer; and a little colder a few days in winter, agreeable to Fahrenheit's thermometer, which I have paid great attention to for some years, comparing the same with the observations of the English.

The increase of most animals appears much greater in proportion in America than in England, mankind not excepted: that of sheep is very apparent to those that pay attention to their breeding stock, which gives me hopes, that in a few years we shall be able to pay for our woollen cloths in wool. Finding the effect of soil and climate so salutary to sheep, &c. it may be reasonably supposed, that rabbits will answer the most sanguine expectations; as I understand the wool of the sheep retains all its nature the same as in England, particularly its strength, and felting qualities among the hatters, which assures me that rabbits wool from those bred in Upper Canada will do the same; and there are some million of acres within the latitude and boundaries which I have before described, suited to the nature of the warren rabbit; nor do I apprehend that the wolves, foxes, &c. of Upper Canada will be half so destructive as the poachers in England.

#### THE GUANACO,

or camel-sheep of South America, no doubt will be a national object at some future period. This is a tame, domestic animal, very hardy, and used with much cruelty by the natives in travelling over the mountains with their burthens; it shears a fleece of wool of from 2lb. to 3lb.  
which

which is of dusky red on the back ; on the sides inclined to white, and under the belly quite white ; its texture is very fine, yet strong ; its felting qualities very powerful, and is worth, when ready for use, from five to fifteen shillings per lb. This animal would no doubt thrive, and do well in England, Upper Canada, and in particular I should suppose in New Holland.

#### THE BEAVER

might be propagated to great advantage in Scotland, Ireland, and the northern parts of England. It is an animal, when tamed, very familiar, and will eat bread and milk, willow-sticks, elm, bark, &c. and no doubt might be imported with safety ; but as these two last-mentioned animals are not likely to be attended to immediately, I shall say no more respecting them for the present.

#### PINE TIMBER.

There are many thousand of large pine trees on the borders of the lakes, river, &c. in Upper Canada, which might be marked and secured for naval purposes, and which might be floated down to Montreal and Quebec with great ease, and which no doubt would be of great benefit in furnishing a large supply of good masts for the navy of this empire.

I am, Gentlemen,

With respect,

Your obedient Servant,

WILLIAM BOND.

*To the Society of Arts, &c.*

*London, Nov. 3, 1806.*

*The*

*The THANKS of the SOCIETY were voted to Mr. WALTER BAINE of Greenock, for the Continuance of his Endeavours to promote the British Fisheries, and to improve the Method of curing White Herrings, with a View to render them equal to the Dutch.*

*The following Communications were received from him, and convey further Information on the Subject noted at Page 402 in the 22d Volume of the Society's Transactions.*

SIR,

**M**Y attention to the cure of herrings has led me to discover, that the superiority which the Dutch herrings have attained is in a great measure owing to their mode of fishing in the deep sea ; and, that though we may in our loch fisheries cure partially as well as the Dutch ; yet, in general, it will not be in our power, unless we follow the same mode of fishery. I wish, therefore, to get two or three vessels fitted out in their manner. It is not only the improvement of the cure that would attend an introduction of the Dutch mode of fishing, but many other great national advantages, which will readily occur on consideration of the subject. I have forwarded to you six firkins of herrings, as specimens of north Highland herrings, cured in the Dutch way ; they are gutted precisely after the Dutch method, indeed by Dutchmen ; but, from the failure of our fisheries, they have been much longer, say above four months, in the first cure than they ought to have been ; and from this and other circumstances, they are not nearly of such good quality as can yet be produced. I expect to be able to send to you in  
a few

a few weeks, a few specimens of Irish herrings, of a large size, cured after the Dutch method.

Ministry have now taken up the business of the fisheries seriously; and it is therefore to be hoped, the introduction of the deep sea fishery will be fully considered of. Dr. Jeffray made an application lately to the Privy Council, for one or two of the Dutch prize fishery vessels at Yarmouth, and which application is still pending. If they could be procured on liberal terms, I would engage to fit them out next season; and if such experiments are to be encouraged, measures should be immediately taken to prevail on part of the Dutch fishermen now prisoners in this country, to assist. It was, in a great measure, by the Dutch fishermen who were procured last war, that the curing has become so much an object of attention since.

I am, respectfully, Sir,

Your obedient Servant,

WALTER BAINE.

*Greenock, Jan. 12, 1805.*

TO C. TAYLOR, M. D. SEC.

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SIR,

AGREEABLY to my last communication, I have forwarded to you specimens of the Irish herrings I then expected. They are cured as near to the Dutch method as, from the knowledge I have of it, is in my power; to form a proper judgment of their cure, it is necessary that they contain the brine, and care ought to be taken in opening them not to lose it. It is also necessary to observe, that in  
judging

judging of the cure, it is to be considered that the herrings now sent are not in condition, being caught just in the spawning season ; that, therefore, they will not sell here for inland consumption. Of two thousand barrels which have been brought to this port within a month from the Irish fishery, there have not been twenty barrels of them yet sold for home consumption. The circumstances of this fishery offer another strong argument for introducing the deep sea fishery. The herrings which might be caught in it, set into the different creeks on the west coast of Ireland, in the months of December and January, to spawn ; they continue on the coast for a few weeks, during which they are caught in great abundance, and they suddenly disappear. A few nights previous to their going off, the water is perfectly thick with their spawn ; and this is always considered a sure indication of the failure of the fishery. There can be no doubt of these herrings being in the deep sea off the coast in the summer and fall, and that they could be caught there, in their best state, after the Dutch method. But what will any improvements in our mode of fishing and cure avail, when the article of salt is to be burdened with such enormous duties ? Under such circumstances the fisheries may barely exist ; but they never can become, as they otherwise might, the great nerve of the country.

The heavy obligation that will now be required to procure salt for fishery purposes, will put it out of the reach of the poorer classes, particularly the inhabitants on the north-west coast of Scotland, whose situation it was understood to have been the anxious wish of government to meliorate, and to prevent their emigration.

The most wealthy will be deterred from engaging in the fisheries, from the great danger and risk arising from

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the vexatious excise regulations and restraints to which they will be subjective. The revenue boards will now consider the persons engaged in the fisheries as objects of their jealousy, and the least irregularity will be made a handle for grievous prosecutions. But notwithstanding the pernicious effects these duties will have on the fisheries, the object of imposing them will not be accomplished in the manner government expects, as far as relates to Scotland. Smuggling will be carried on to a greater extent, and there will be less revenue on the article in Scotland than formerly, from the great temptation and advantage it will afford to smugglers. The first cost of common fishery salt is now fourpence halfpenny per bushel at the works at Northwich; it stands on board at Liverpool about sixpence per bushel, the duty on which is fifteen shillings. In the Isle of Man, salt is duty free for every purpose. To smuggle it from thence the person only runs the risk of losing it; but if he save only one tenth of the quantity, it may be made a trade. In corroboration of what is stated, as to the effects of the salt duties on the fisheries, the Board of Excise instituted prosecutions last year, which, if they had accomplished their object, would have ruined the first adventurers here and in Leith; though the Board admitted they had no information of fraud, or could make out such charge against them; and the Board would in a great measure have accomplished their aim but for the interference of the Treasury, procured with great exertion.

I am, with respect, Sir,

Your most obedient Servant,

WALTER BAINE.

*Glasgow, March 15, 1805.*

TO C. TAYLOR, M. D. SEC.

SIR,

SIR,

**I** AM still prosecuting the business which is the subject of our correspondence, and have acquired considerable additional knowledge in it since last season. I can now procure brine in taste, flavour, colour, and consistency, equal to any Dutch brine: this has been hitherto the great desideratum in our cure.

Our plans of curing this season are much more complete and extensive than formerly, the herrings are of a much better size and quality, and the prospects of fishing more flattering. I am of opinion the herrings forwarded you last season would not give the satisfaction I could wish, as the herrings were poor of themselves, and the method in which the greater part of them were cured, and in which the astringent principle was employed, I find will not do, and have given it up entirely. If you choose, I will send you some specimens of the herrings I have lately cured, and which I think you will approve of. I am anxious to see the publication you noticed to me of the Dutch placart respecting their herring fisheries; and beg, as a particular favour, that you will procure it for me.

I am, respectfully, dear Sir,

Your obedient servant,

WALTER BAINE.

*Grenoch, Aug. 31, 1805.*

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N.B. The Society, on examination of Mr. BAINE'S herrings, found them much superior to the white herrings usually procured from the British fisheries, and equal to

the Swedish, but rather inferior to the Dutch. The casks were opened at different times; and in some of the barrels kept and examined by the Society three years after the fish were caught, and salted, the herrings were yet in good condition.

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*The following Publication having been lately under the Consideration of the LORDS of HIS MAJESTY'S PRIVY COUNCIL for TRADE and PLANTATIONS, and being the Account particularly requested by Mr. WALTER BAINE, is annexed with a View to explain the Method in which the Dutch Herring Fisheries have been conducted, and to convey some useful Hints for Improvement of the British Herring Fisheries.*

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*A TRANSLATION of the DUTCH PLACART and ORDINANCE, for the GOVERNMENT of the GREAT FISHERY.*

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*The PLACART and ORDINANCE concerning the Catching, Salting, Landing, Curing, Packing, Heightening, and Laying of the Herrings, &c.*

The STATES of HOLLAND and WEST-FRIZELAND to all to whom these Presents shall come, greeting.

SINCE, by the obsoleteness of the laws, the orders formerly given for taking and loading of herrings are not duly maintained, as some people, for their particular profit, catch

catch them before the due season, and salt, send them to market, and sell them, before they are of a proper growth, and fit for the market: and forasmuch as some people, the better to cover their misdemeanors, send them directly to the eastern markets, from sea, and transport them inland, without their being first reported at the customary places, where daily attendance is for that purpose given, which not only causes in these, but in other countries, great disgust to the commodity, and dishonour to the dealers therein, the fish not being then in their full relish and perfection, which occasions those which are good to be suspected and unsold.

And whereas those so caught are neither well salted, sorted, nor properly laid in the barrels, to the great loss, damage, and prejudice of the merchant, the ruin of the herring trade, and of the general consumption.

And whereas this great fishery is the principal mine, and chief support of these countries, and of the inhabitants therein; therefore, and in order to remedy the growing evil, we, with the deputies of the cities, &c. concerned in the herring commerce, do make and establish the following orders.

In the first place, no person shall wet their nets in the sea, or begin fishing before the feast of St. John the Baptist, being Midsummer-day, N. S. or continue fishing from thence, longer than until the 31st of December following inclusive, under the penalty of 200 guilders \*, and loss of the herrings taken, or value of the same; and that the several vessels so fishing, in conformity to this ordi-

\* A Guilder is 1s. 9d. 86 Sig.

nance, is to be certified to us on the oath of the masters, and of two of their respective crews.

2. Excepting always from this prohibition, such vessels as go upon the Dogger-Bank to fish for cod; those may sail before Midsummer-day, and may catch herrings, provided they take no more than may serve for the crew's present spending; but they shall not, before the said 24th of June, salt them in pots, jars, or barrels, or bring on shore any uncured, or unsalted, nor sell any at sea or on the land, make presents of, or otherwise distribute or dispose of them. And the masters of such fishing vessels, so designing for the Dogger-Bank, are, before they sail, to appear before the magistrate of the city or place from whence they sail, and on their solemn oath declare, that they will not cure, salt, pot, or barrel, or otherwise preserve herrings, or connive at any of their crews so doing, until after the 25th day of June, the day next after the feast of St. John, or Midsummer-day, nor will bring them into port, sell, distribute, dispose, or make presents of them, in any manner whatsoever.

And such master, on his return, shall declare to the magistrate by solemn affidavit, that he has not broke, but kept holy and conscientiously the oath taken by him on his outset, under the penalty of 600 guilders, to be made good by the ship and cargo, any time within one year and a day; and the owners may have their redress over against the master, who shall likewise suffer corporal punishment, according to the greatness of his crime. The fine to be divided; one third to the proper officer, one third to the poor, and the other third to the informer; and the herrings to be forfeited, unless  
taken

taken aboard the vessels by the captain of the great fishery, who shall cause them to be thrown into the sea.

3. No ship or boat shall sail out to catch herrings from Holland or West-Frizeland to the north, nor go into deep water, without the master's having first taken out an act of consent, who, on the procuring such an act, shall make oath, that they will not sell or make present of such herrings at sea, nor salt nor cure them on shore, or aboard, under penalty of confiscation of the fish, and of the sum of 25 guilders each barrel. And that the herrings caught of the one night shall be separated from those caught in another, and shall declare which are of each night distinctly, on forfeiture of the vessel and cargo, and degradation of the master.

On the second outset, the vessels shall not put to sea before the 14th of September, nor fish before the 20th of the same month, at which time the masters may put their herrings aboard other ships, and assist one another in the hauling in of their nets.

In case any shall surreptitiously procure an ordinary act of consent, such shall be liable to all the penalties above recited.

4. None shall sell or truck for herrings, but to those who are authorised by the proper magistrate, nor but where the herring trade is established; and the master and two or three of the mariners shall inspect the printed ticket, hereafter specified, in order on their return to make their report, pursuant to the contents of the sixth article. And in case any body shall, when at sea, put herrings on board other ships than as above directed, the master shall forfeit the said herrings, or their value, and beside pay a fine of 600 guilders, to be levied upon the ship or goods, and the owners

to have their remedy over against the master, who shall likewise lose his office, and be declared incapable of future service.

5. All such as are inclined to follow the busses in vent jagers to take off their fish, shall first procure of the port-magistrate, where they sail from, an act of consent to follow that traffic, until the 15th of July, of the first fishery, and no longer; provided likewise that they take out from the proper office a ticket, with herring-buss printed at the top, with the date of the year, sealed with the seal of the great fishery, and signed by the city secretary. Provided they promise at the same time upon oath, not to take on board any pickled herring, but from busses of Holland and West-Frizeland; and shall bring with them into port, certificates from the respective masters from whom they purchase fish, signed likewise by two or three mariners of each vessel, with the name of the port they sailed from, the ship's name, the quantity delivered, that they were caught after Midsummer-day, and salted, cured, and laid in barrels in his ship, on forfeiture of the herrings, or the value of them.

If any should, without being supplied with an act of consent, take on board herrings, which they may do, if caught after Midsummer-day, but they shall declare the same on their oath, and on the oaths of two or three of the mariners, that such herrings were caught after Midsummer-day, under the penalty above said.

And all masters are hereby interdicted from putting any herrings on board the vent jagers after the 15th day of July, under the penalty above, and also of the money received for such herrings, at the risk of the purchaser, and the owners to be totally acquitted.

6. Neither the vent jagers, nor busses, shall carry the  
fish

fish they purchase or take any where but to Holland or West-Frizeland, where the barrels, after visitation, are to be marked or stamped with a hot iron, on forfeiture of the herrings, or their value, and under the penalty of 200 guilders.

Before the master, at the completing of his voyage, shall break bulk, he shall, with two or more of his crew, declare upon oath, in the form hereafter specified, what herrings they have sold at sea, and to whom delivered; whether they had an act of consent to pursue the trade; how much fish were landed at each adventure; that they were caught after Midsummer-day; and cured, salted, and barrelled within their ships, only carried into Holland, or West-Frizeland; also duly reported there; and that before Midsummer-day they neither wetted their nets, nor put any fishing-tackle into the sea. Those who refuse the reporting, not only the last, but former voyages, shall forfeit the unreported herrings, or the value thereof. Every such oath shall be registered in due form, and the officers and committee of the great fishery may, on application, have authentic copies delivered to them.

7. No inhabitant of Holland or West Frizeland shall engage in any share, or part of vessels, set out as fishing busses, or vent jaggars, the property of persons inhabiting out of the said provinces, under the penalty of 600 guilders, and the confiscation of ship and cargo. The information to be deemed good, though made twenty years after the fact committed.

8. The captains of the men of war attending this fishery, are hereby authorized, that in case any master of a buss should, without an act of consent, sell any herrings to the Zealanders, or to any inhabitants of the United Provinces, not of Holland, or Frizeland, or to any foreigners; or who shall

shall sail from the fishing-grounds directly eastwards. As such facts shall come to their knowledge, they are hereby empowered to arrest such offenders and send them in prisoners.

9. The first caught herrings shall not be sold until they have lain ten days in pickle; and to ascertain the same, the cure-masters and overseers shall mark the cask with a circle round it, between the neck hoop and belly hoop, or in default thereof forfeit 300 guilders for each barrel, one half to the informer, the other to the proper officer; and such who cannot pay the fine, shall be confined to bread and water for a month; and all herrings which come into the provinces, without such circular mark, for consumption, shall be thrown into the sea.

10. Each buss-master shall have his particular mark on such barrels as he intends to land, or that he puts on board other vessels, which mark shall be put on the bung-stave, or the next to it; and he omitting such mark, shall forfeit six stivers \* each barrel.

11. Every buss-master is to declare, at the secretary's town clerk office of the port wherefrom he sails, where they intend to fish, what port return to, and what mark they use, in order that the sums may be duly registered, under the penalty of 120 grote †.

12. Each buss-master shall take care, that in packing the herrings be laid close and even; and that whoever is guilty of any fraud, by pressing them with baskets or trays, shall be fined 25 guilders, suffer arbitrary correction, and be obliged to make good the damage to the merchant who may suffer by them. And that the buss-master may not be injured by the roguery of the layer, the said layer shall put his

\* A Stiver is 1*d.* 0.9 Stg.

† A Grote is 0*d.* 34 Stg.

mark a hand breadth within the barrel, as also on the outside on the uppermost part; and on neglect thereof shall suffer arbitrary correction, provided the same is not purposely neglected by the direction of the buss-master.

13. No one shall lay the herrings cross-ways, or falsify, or change them, put the old under new, lay those bit by sharks, or that are sickly, by the good, nor those which are caught of the one night, by those of another taking; nor shall any which are not salted the same evening they are caught, be afterwards cured, under the penalty of 25 guilders each barrel, and naval discipline.

14. Each buss-master shall diligently attend to the sorting of the fish, by separating the full from the poor ones, and not mixing the sound with the night-refuse, roe-sick, milt-sick, stinking or unsightly herrings; nor to put either of those with the other, in the same barrel, but to lay all the distinct sorts in separate casks, and mark them accordingly.

15. Each fisher shall be obliged to declare for what price he will sell his different assortments, distinctly; and if they should happen to fall short of the contract, the cure-master is to take an exact register of them, and to decide the difference.

The buss-master is not only to mark and distinguish the full sound from the weak, but the great from the small, and also those of the like kind, caught in different seasons, from each other; and is with two or three of his crew, to declare in the register's office on oath, that all his cargo is properly and distinctly marked, and was so before the casks were severally stowed in the ship's hold.

16. The buss-master, according as he finds the seasons, may salt the herrings at his own discretion, and cause the net to be laid as he finds the shoals to run.

*Of Curing, Packing, Repacking, &c. of the Herrings.*

17. That from henceforth the curing of the herrings shall be perfected within three weeks after coming into port, or after they are sold to the merchant, and shall be repacked once or more, according to the custom of the place, and nature of the herrings; but if the curing is not perfected within three weeks, the buyer shall not pretend to any abatement.

18. The buss-master and book-keeper are expressly interdicted from concerning themselves in the sale of the herrings by taste at the bung-hole; they are only to dispose of them by pack and keur, *i. e.* by wholesale as they arrive, on penalty of paying 50 guilders per last, and confiscation of the fish; one third to the informer, one third for the officer who executes the process, and one third to the poor.

19. No herrings shall be datumen, *i. e.* given gratis. If so found, they shall be confiscated, one third to the informer, one third to the officer in execution, and one third to the poor; and the person who so cured them shall lose his office.

20. No herrings shall be heightened with fresh pickle, nor repacked but in the public street, on the keys, or in such places as are customary, with open doors, where any body may go in or out; and whoever packs, &c. with the doors shut, or hinders any body coming in, shall forfeit 240 grote to the proper officer, as often as found guilty.

21. The cure-masters are to take special care, that no nasty, wrack, unsightly, roe-sick, milt-sick, or other indisposed herrings, shall be used to fill up or heighten the barrel; but each, in their different order, to be filled with herrings of the like kind, in the penalty of 120 grote each barrel,

barrel, whereto the merchant, packer, filler, and every one in particular concerned in packing are alike liable. And that this may be more commodiously effected, it is ordered for the future, that no herrings shall be packed or heightened to be sent beyond sea, before that the cure-masters do inspect and ascertain, that the herrings are packed in due order as abovesaid. And further, to prevent fraud, the placemaster where the herrings are packed, &c. shall set his mark on the cask, between the third hoop and the neck hoop.

It is likewise expressly forbid to pack small sweet-wrack herrings with the great, but each shall be heightened by those of the like nature and season of taking; and according to the different sorts and takings, the casks are to be branded with such different marks upon the belly, as is by this ordinance specially directed, as also the city mark.

22. The coopers are in packing to dispatch the bad and unfitting barrels first, for present expending; but for the keeping herrings, they are to take good barrels, to the liking of the merchant, or of the cure-masters, who are to see it done, and, in default, the herrings are to be taken out and repacked without any expense to the merchant, and the offender to pay four grote Flemish each barrel.

23. The coopers shall not hoop branded or other repacked casks with half barrel or green hoops, but with good whole barrel hoops, made the March preceeding.

24. No barrels which are to be sent abroad, shall have less than fourteen hoops.

And whereas, it has been discovered to have been heretofore a practice, to pack the several sorts of herrings in unlawful barrels, to the great detriment of this profitable commerce, it is therefore forbid, for any body hereafter to pack herrings in salmon casks, or other unfit vessels, but  
solely

solely and simply in barrels made and burnt conformable to the ordinance published, concerning the making, curing, and burning of the barrels, on penalty of confiscation of the herrings, and for each stave, small or large, 20 guilders for the informer, officer, and poor.

25. Also that any servants of the packers, coopers, or other officer, who may pack in salmon or other unlawful cask, shall immediately be discharged their places.

26. We also forbid to pack in any barrel, salt, spice, or or other commodity, under cover of brand, wrack, or other kind of herrings, to be sent westwards, under pain of losing the said barrels, and all which is therein contained, besides to pay 100 guilders, and to suffer corporal correction; as also to make good the damage which the merchant or skipper may suffer thereby; and the porters or servants employed therein, shall suffer as in the foregoing article.

27. The herrings caught after St. James's-day, and salted with fine salt, may be exported for wrack westward, as has been formerly accustomed; the barrel to be bound with sixteen hoops, the date of the year upon the belly thereof, without letters or cyphers, and the mark of the purchaser thereon.

#### *Of Salt.*

28. No Spanish or Portugal salt shall be stowed into chests or barrels, before the cure-master has examined and found it good, under the penalty of 25 guilders for every hundred weight.

29. No buss-master shall carry to sea, for the use of the herring fishery, any other but Spanish or Portugal salt, twice examined by the cure-master, who shall  
open

open every barrel before it goes on board, see them filled up, and stamp his mark thereon; and the buss-master being proved to have cured herrings with salt not twice inspected, to forfeit 36 guilders. And the said buss-master is in his certificate to declare, that the herrings are cured with approved Spanish or Portugal salt, before they are set to sale, or the barrels filled up.

30. The buss-master is, at the request of the cure-master, to open his barrels, and close them again, in his view; who may have two inspections, and at each time the fee of half a farthing each barrel; the first time to be paid by the seller, the last by the buyer.

31. If any fraud shall be discovered in the barrelling of the salt, the seller shall forfeit 200 guilders; one third part to the officer, one third to the fishery, and one third to the poor.

32. Any person found curing of herrings with French salt, whither from Senters, Olderdome, Borcus, St. Martin's, Brouwart, South-France, West-Indies, or the Isle of May, shall forfeit the herrings.

33. Fish caught after St. James's and Bartholomew tide, shall be salted with fine salt, made from boiled sea water; according to the contract made with the city of Cologne.

34. No white small salt shall be received, but with a certificate from the maker, and taking an oath before they use it, that the salt is not changed after receiving it on board, on forfeiture of the salt, or value thereof; and if found guilty of perjury, to be punished, according to the direction of the ordinance heretofore agreed upon with the deputies of Cologne.

35. There shall not be sent abroad, to France, Flanders, Brabant,

Brabant, and so on westward, any barrels of herrings otherwise marked than with the grand Rouen brand, and fished and packed after Bartholomew tide.

Nor shall any herrings be exported to Bremen, Hamburg, Cologne, or other places that way, cured with coarse salt, whether full or slender fish, wrack or refusal, under penalty of forfeiting the herrings, or value of the same, and a fine of 6 guilders each barrel, and naval correction.

36. Packers, coopers, and place servants, for the same crime, to be discharged, and declared infamous; nor shall they afterwards be admitted into any services in these provinces.

37. All herrings sent to Hamburg, and in that course, must be branded with the seller's mark, and the cypher of the year. All others with the single brand only, as is before directed.

38. Herrings once exported abroad, shall not be received back, to be filled or cured anew, on pain of confiscation.

39. For the preservation of this most important and advantageous branch of commerce, no one shall, in these provinces, land, pack, or otherwise cure or prepare any Maesterlandish or other foreign herrings, but only coopered up in casks, and sent away, in the same condition as imported, under pain of confiscation.

40. All penalties, the division whereof is not previously specified, are to be one third to the informer, one third to the officer executing the process, and one third to the poor.

41. And that no buss-master may plead ignorance of these our ordinances, they shall be obliged to take authentic copies with them to sea.

42. No

42. No officer or fiscal shall compound with delinquents, without the express approbation of the burgomaster or treasurer of the city, or place where the crime was committed; and if such composition be made without their consent, the same is hereby declared illegal and void; and the burgomasters, &c. may pursue the offender, and recover the penalty notwithstanding; and apply the one third part, usually appropriated to the officer who executes the process, to the use of the city.

43. The deputies of the cities trading in the great fishery, may, in the future, make such bye laws as they find conducive to the welfare of this lucrative branch of commerce.

And as we are clearly apprised, that all the foregoing articles are for the preservation and bettering this beneficial branch of trade, therefore we do command all and every one, whom it may concern, punctually to observe these our regulations, under the pains and penalties affixed to each article, in case of contravention. And as we well understand these our ordinances, so will we they be duly executed against the contraveners. And that no one may plead ignorance of the same, we do hereby command and authorise our head door-keeper, or beadle of our court of justice in Holland, to publish the substance of these in all the cities and places of Holland, and West Frizeland, wherever it shall be necessary.

Done at the Hague in the form of a Placart Geresumeert, and attested under the common seal of the States of Holland, the 10th of May, 1651, and again renewed, and the second article amplified the —

By Order of the States.

N

*The*

*The Form of the Oath to be taken by the Buss-Master, trafficking in the Herring Fishery, in order to his obtaining the Act of Consent.*

I, A. B. master of a herring ship, and two or three of my seamen, do promise and swear, that we will not, before the 24th of June, nor after the 31st of December next ensuing, any herring nets throw into the sea, nor before wet them to catch herrings.

Secondly, That I will not personally, or by connivance, do, or permit any herrings to be delivered at sea, to any person or persons whatsoever, out of my vessel, directly or indirectly, but only to such ships from Holland and West Frizeland, which have and produce the due act of consent. At the top printed "*A Buss*," and underneath the seal of the great fishery, and signed by one of the Secretaries of the under-mentioned cities, viz. Delft, Rotterdam, Scheidam, Briel, and Enchuysen, to whose ships I shall, to the 15th of July, and no longer, deliver herrings; nor put on board each vent-jagger more than one small barrel of fish for the book-keeper.

Thirdly, the barrels shall not be more than once packed and heightened; and special care taken to preserve the bloody pickle, nor waste the same as little as possible.

Fourthly, I will take due care that the herrings are laid even in their rows, not thrown in with baskets or trays confusedly, nor the kinds mixed, bloom laid, or falsified.

Fifthly, That I will not, new herrings caught in the one night, mix with those taken of another; but will specially declare what herrings are taken each night distinctly.

Sixthly,

Sixthly, That I will not sell or barter in Shetland, or at sea, to, or with any foreigner, salt, pickle, barrels, hoops, staves, fishing tackle, yarn, lines, or any other fishing appurtenants, for any kind of merchandize whatsoever; nor make presents of, or connive at any being made by the ship's crew, directly or indirectly. And farther, that my ship's crew shall have no more for a present, than each a small kinelkin, or one eighth of a barrel for each voyage. And that I will in all things govern me according to the directions of the placarts and ordinances regarding the herring trade, which have been delivered me.

So verily help me God Almighty.

*The Form of the BUSS-MASTER's Oath after his Return from Fishing.*

Appearing this day before the Lords N. N. N. N. in the city of I, A B, and C D, E F, G H, my own mariners, respectively on our solemn oaths declare, that we did, in conformity to the act of consent, duly equip a ship for the herring trade; and no fishing tackle, before the 24th of June, did throw into the sea, or shot out, or wetted: nor have delivered out of the vessel, herrings to any person or persons whatsoever; nor have caused or connived at any such thing being done, directly or indirectly, in any manner or form whatsoever; except only to such ships or vent-jaggers of Holland and West Frizeland, who have produced a qualified act of consent, which we perused: nor to them after the 15th of July last; nor have fished for, or caught any other herrings

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but

but what are specified in our report, delivered in to the treasurer.

Lastly, I, A. B. do declare, that no more has been given to each mariner of my crew, than one kinelkin, or eighth part of a barrel of herrings, each voyage.

So verily as God Almighty must help us.

*The Oath taken by the BUSS-MASTER, and his Crew, on their Outset to the DOGGER-BANK.*

I, A. B. sailing with fishing tackle upon the Dogger trade, and all my mariners, promise and swear, that we will not carry with us this voyage any more than twenty nets : that we will not catch any herrings before St. John's Day ; nor before that time will gut, salt, nor put any in pots or barrels ; nor deliver any at sea, gutted or not ; nor bring any home to sell, make presents of, or otherwise distribute.

So verily help us God Almighty.

*The Oath of the same, on their Return from Fishing on the DOGGER-BANK.*

We do hereby declare on our solemn oath, in consequence of that previously taken, that we have not, during this voyage, had on board any more than twenty nets ; nor before St. John's Day did gut, salt, pot, barrel, lay up in any vessel, give away or bring home ; nor have nor shall bring ashore any herrings for to sell, make presents of, or distribute in any ways howsoever.

So help us, &c.

*Oath*

*Oath of the VENT-JAGGERS.*

We promise and swear not to take on board, from any ships or busses but those of Holland and West Frizeland, any herrings, nor purchase from them, but such where-with a due attestation is given, signed by the masters and two or three of their mariners respectively; and wherein is contained the quantity, and an assurance of their being gutted, salted, and laid, according to the direction of the placart: nor such herrings taken on board will we carry any where, but to such cities or places in the said provinces, where brands and certificates are given: nor will we our act of consent deliver or lend to any person, to make use of at sea; nor after the 15th of July will take any herrings on board, directly or indirectly, except one eighth of a barrel from each buss for the book-keeper, under the penalties in the placarts and ordinances, concerning vent-jaggers, contained.

And we do further promise and swear, that we will not sell, make presents, barter, truck, or otherwise howsoever dispose of any salt, pickle, barrels, hoops, staves, fishing-tackle, nets, yarn, fishing line, or any other materials in the fishery, nor merchandizes of any kind or denomination, to the people of Shetland, or other foreign nation whatsoever, nor connive at the same being done, directly or indirectly.

And finally, we promise immediately after our return home, to take the oath of purgation.

So verily, &c.

*The Oath of Purgation.*

I, A. B. and two of my mariners swear, that the oath taken by me on receiving the act of consent, has been

\* The vent-jaggers are the persons employed on board vessels which fetch the pickled herrings from the fishermen, and carry them on shore.

duly observed in every point, without neglecting the least part thereof.

So verily, &c.

*The ACT of CONSENT.*

We the Burgomasters and regency of the city of consent, that                      may sail with his herring-buss to the North Sea, there to follow the herring trade, and has sworn before us, that he is duly equipped with fishing tackle, salt, barrels, mariners, and all other requisites belonging to that commerce, according to the burthen of his vessel; and that he will not, before the 24th of June, nor after the 31st of December next ensuing, put into the sea any fishing tackle, nor wet them to catch herrings; nor will himself, nor connive at others putting fish on board any vessels, other than of the provinces of Holland and West-Frizeland, having an authentic act of consent, with an "*herring-buss*" printed on the top, and at the bottom the printed seal of the great fishery, and signed by the secretary of the city from whence he sailed; in which vessel he may to the 15th of July inclusive, put on board the herrings he has taken. And that he will exactly set down upon the schedule the mark of the barrels, and the night of the fish being taken, which he so disposes of; and that he will not pack or heighten the barrels with crooked herrings more than once, and take care that as little pickle be spilt as possible; that he will land his fish only in the provinces of Holland or West-Frizeland, and with three of his mariners report his cargo within three days after his return; that his herrings are laid in even rows, from end to end, not flung in with baskets or trays, nor mixed, laid crossways, or falsified; that he, no salt, pickle, barrels, hoops,

hoops, staves, herring tackle, yarn, lines, other fishing furniture, or merchandizes of any denomination, will sell or otherwise dispose of in Shetland, Scotland, at sea or on shore, to any foreign nation whatsoever, or connive at the so doing, directly or indirectly, under the penalties in the ordination mentioned; and that he will always govern himself according to the placart and ordinances made in behalf of the herring trade, the which are given him for his better direction herein.

So verily must God Almighty help him.

In witness whereof, the seal of the great fishery is hereunto affixed, and signed by our city secretary, the       day  
of

N. N.

*(A printed Herring-Buss.)*

We the Burgomasters of the city of       consent and admit       with his ship to sail amongst the busses and herring ships, and take on board herrings from them, until the 15th of July, and no longer, conformable to the ordinances made in the behalf of the vent jaggars; and that all the herrings which he shall take on board at sea, shall be only from the busses and ships of Holland and West-Frizeland, and that he will of each master take an attestation signed by him and two or three mariners, mentioning the quantity of herrings put on board, and that they were caught, gutted, salted, and laid in the barrels, according to the direction of the placart. As also that he will not receive on board any herrings to make presents of, except a small kijnelkin for the book-keeper, nor carry his herrings any where but where there is brand and certificate, nor will lend to any one his act of consent, nor will sell or make

presents of, barter or exchange any salt, pickle, barrels, staves, hoops, fishing tackle, nets, yarn, line, or any other thing belonging to the fishery, nor any kind of merchandize, either at Shetland, Scotland, nor any where else, at sea or on shore, nor to any foreigner, directly or indirectly, and that he will take the oath of purgation immediately after his return.

So verily God must help him.

In witness whereof, at the top, is printed a buss or ship, with the date of the year, and at the bottom is printed the seal of the great fishery, and signed by our secretary, the day of

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*Instructions for the Mates, against not rightly managing, sorting, salting, and laying the Herrings.*

The deputies of the great fishery and herring navigation of Holland and West-Frizeland, being credibly (and with great indignation) informed, that some mates neglecting their duty, do not rightly manage, sort, salt, or lay the herrings, notwithstanding the good orders instituted by the general placart, relating to the catching, salting, and managing of herrings by their Noble Great Mightinesses, dated May 10, 1651, lately renewed and explained especially by the 12, 13, 14, and 15 articles; a copy of which, agreeably to the 41st article of the said order, is yearly delivered to the said mates, and which they solemnly swear to, as a warning, in order to prevent all abuses and misdemeanors, as it is ordered by the said deputies, by virtue of the said placart; by which, it is to be feared, that the vending and good reputation of Dutch herrings in foreign markets, already decreasing, may entirely come to cease, and on the contrary

contrary be despised, to the great loss and damage of the trade, and of consequence to the ruin of the common herring and great fishery, it being so essential a branch of the commerce and welfare of these countries, and inhabitants thereof, if it is not speedily and strictly prevented ; the said deputies, with the advice and concurrence of some of the owners, stewards, and merchants in the herring trade, have agreed and ordained, in order to prevent those gross abuses and neglect of duty, for the preservation and re-establishing the herring and great fisheries, as they do by these presents ordain, by way of renewing and explaining the before-mentioned good orders, that the mates of the herring vessels shall not mix several sorts of herrings together, but shall sort them properly, viz. full with full, measure with measure, and small with small. The mates shall, upon account of extraordinary large quantities caught, and want of time to sort herrings properly, upon their arrival, enter them as unsorted herrings. Further, they shall salt the herrings properly, and the large ones not less than four barrels of salt to a last ; excepting only the small barrels ; as likewise clean them, and afterwards lay them crossways in the barrels. Commanding every mate to govern himself by this exactly, upon the penalty (over and above the action upon the case of perjury) of 300 florins, for every mate whose herrings shall be found not sorted in the manner above mentioned ; and he shall not have any certificate to go on the herring fishery afterwards. But with regard to the not laying the herrings crossways in the barrels, a penalty of six florins each barrel. The said penalties to be applied agreeably to the 40th article of the above placart, one third to the informer or informers, whether mariners or other persons, one third to the officer who shall take the information,

information, and, lastly, one third to the poor. Moreover, the bad sorted herrings, viz. the full mixed with measure, as also measure mixed with full, shall be marked as unsorted, and with regard to the full and measure mixed with small, they are to be sold as small, and shall be accounted and paid for as such by the buyer. The above orders and penalties to remain in full force, and at the risk and charge of the mates. And to the end that no body shall plead ignorance, the deputies have ordered these to be published and affixed at the proper places.

Done at Delft,                    by order of the said deputies.

The Burgomasters and rulers of the city of Scheidam, do give consent to                   , that he, with his herring vessel, may sail to the Northern Sea, to exercise his herring fishery there, and he has sworn by solemn oath, that he is equipped with proper tackle, salt, barrels, men, and other utensils proper for the herring fishery, according to the bigness of his vessel; as also, that he will not throw out any herring tackle, nor make any before the 24th of June, nor after the 31st of December next; also that he will not deliver to any body whatsoever any herrings at sea, nor suffer any to be delivered out of his ship by any other person, directly or indirectly, in any shape, but to such vessels only coming from Holland and West-Frizeland, as shew a proper certificate, with a herring-buss at the top, and at bottom the seal of the great fishery, and signed by the secretary of the town where he comes from, to which vessels he may deliver his herrings until the 15th of July, and no longer. That he shall express in the list, exactly the marked barrels, and what night the herrings he delivers were caught: further, that he shall not fill up his barrels more than once with other herrings, and take care that

that as little of the blood pickle as possible shall be let off: and further, that he shall bring all the herrings he catches in the province of Holland and West-Frizeland, as likewise together with three of his scamen, faithfully to enter the said herrings three days after his arrival at the longest; also, that he shall take as much care as possible that the herrings are laid even from one bottom to another, and that they are not thrown into the barrels with baskets or shovels, nor mixed or falsified. That he shall not carry on shore in Shetland, Scotland, or other places, nor sell to any foreign nation at sea, nor exchange or make presents of any salt, pickle, barrels, hoops, tackle, thread, hook tackle, or any other fishing tackle, nor any merchandize under what denomination it may be, nor take any goods upon freight out or homeward bound, nor suffer it to be done directly or indirectly, on pain as mentioned in the instructions; and shall farther regulate himself according to the placarts made relating to the herring fishery, which are delivered to him for that purpose.

So truly might God Almighty help him.

In witness whereof, the seal of the great fishery is put hereto, and signed by the secretary of the town.

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*The THANKS of the Society were this Session voted to Dr. ALEXANDER ANDERSON of the Royal Botanical Garden of St. Vincent, for the following Communications received from him.*

SIR,

FROM my long silence you will conceive me either neglectful or ungrateful to the Society, but this is not the case.

The

The reason is, I had nothing of consequence to mention relative to the garden, and it would be trespassing on your time, and interfering with matters of consequence by troubling you with trifles.

Although I have introduced a number of plants in the course of last year from different quarters, yet few of them are yet known to possess valuable properties, except some useful woods.

I am grieved to inform you, that I have lost one of my nutmeg trees ; unfortunately the other, which prospers luxuriantly, turns out to be a male plant, consequently worth nothing. I blame myself, in some measure, for this loss, by taking too much care of it, and not letting nature take her own way. Unluckily the war precludes any correspondence with Cayenne, or I would have replaced it from thence. The same cause has cut off all supplies from other parts. Through the medium of a gentleman who was here last year from Cuba, I expected to have had, before now, some of the productions of Mexico and adjacent parts of the continent, particularly Myraxylon, or Balsam of Peru ; however, if I do not procure it through that channel, I have found out another from whence I have hopes.

The Gomertur Palm, which produces the material for cordage in the East Indies, is thriving here surprisingly, and, I think, might be rendered a valuable production to these islands. The mode of its producing the fibrous web, and the guard or protection surrounding, clearly points out that nature intended it for the use of man ; one tree produces an astonishing quantity. I think the fibres from the plants in this garden are stronger than the specimens I have seen from the East Indies. A small piece of the web, with its protector, I now transmit you. I have great reason to think  
that

that but few plants have been raised by the planters in the different islands, from the large quantities of seeds I have dispersed amongst them. The fact is, that no attention, except by a few individuals, is paid to any other plant but the sugar cane, and no other is in estimation with them.

The bread-fruit, although one of the most valuable productions yet sent them, is neglected and despised, unless by a few persons. They say that negroes do not like it, and will not eat it, if they can get any thing else; but this is not really the case, as I know, and can declare from experience, that the very reverse is the fact, when once they are a little accustomed to it. The fact is, that the planters hate giving it a place on their estates, as they regard it as an intruder on their cane land, and they dislike any other object but canes. As to futurity, they think nothing of what may be the wants of themselves or negroes three or four years hence. Even their most valuable mill-timber, than which nothing is more daily wanted by them, they are constantly destroying instead of preserving. They import it at an exorbitant rate, and the importation is precarious. With proper economy and management, there are few necessities for themselves or negroes, but which might be raised on their own estates, instead of importing them from America, unless it be lumber, and, probably, even that might be done in time in the back, cool, and mountainous situations. I am trying what may be done from the pine tribe.

I am happy that many are now paying some attention to the cinnamon, as the demands on me for the plants are frequent, which I impute to the specimens of it which I have shown.

The black-pepper plants have not yet produced; I have them in plenty, and am trying them in various situations,  
and

and can easily increase them by cuttings ; unluckily I can procure no information as to their culture in the East Indies, or of the soil or situation in which they thrive best.

I send you some more cloves, the last year's produce of two small trees ; next year I expect from several others : you will also find inclosed a lump of gum resin from *cochola odorata*. As it issues in large quantities from wounds in the bark, it might be procured in plenty from Trinidad, if found useful. Trees of it, of enormous size, are abundant there. Other specimens of *terra japonica* would have been sent with some other articles, if all my attention had not been engrossed about the late addition to the garden : the same cause has prevented me from excursions to other islands for larger supplies of plants. I remain, with most sincere regard,

Sir,

Your obliged and obedient Servant,

ALEXANDER ANDERSON.

*St. Vincent, June 9, 1806.*

TO C. TAYLOR, M. D. SEC.

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SIR,

SINCE your last letter to me, very little matter interesting to the Society has occurred, and few acquisitions made to the garden subservient to medicine or commerce. War interrupts correspondence in natural history as much as speculations in commerce.

For 18 months past I have had expectations of some useful plants from Mexico, and other Spanish colonies in that quarter,

quarter, by the way of Cuba, but from thence the transportation must be circuitous by North America, and after that subjected to loss and interruption, before they can reach St. Vincent. I have therefore given up all hopes whilst the war continues.

As the Society may be desirous to know the present state of the garden, I have transmitted a catalogue of the variety of plants it contained on the 24th September last ; there are many more from different quarters received without names, or those that are known by the aborigines, and I cannot arrange them until they flower. I am, with great respect,

Sir,

Your most obedient Servant,

ALEXANDER ANDERSON.

*Botanical Garden, St. Vincent,*

*Nov. 1, 1806.*

TO C. TAYLOR, M. D. SEC.

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### CATALOGUE OF PLANTS

*In His Majesty's Botanical Garden in the Island of St. Vincent, September 24, 1806.*

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#### *Commercial and Medicinal.*

ACORUS calamus	Aristolochia trilobata
Acer saccharinum	————— anguicida
Aloe perfoliata	Arnica montana
Amomum Zingiber	Bixa orellana
Asclepias asthmatica	Cactus cochenilifer
Aristolochia odoratissima	Canella alba
	Caryophyllus

<i>Caryophyllus aromaticus</i>	<i>Myristica officinalis</i>
<i>Cassia senna</i>	<i>Myrtus pimenta</i>
— <i>glauca</i>	<i>Olea europæa</i>
— <i>fistula</i>	<i>Pedaliium murex</i>
— <i>javanica</i>	<i>Piper nigrum</i>
<i>Cinchona cymosa</i>	— <i>longum</i>
— <i>Caribæa</i>	— <i>cubeba</i>
<i>Convolvulus jalapa</i>	— <i>Betle</i>
— <i>turpethum</i>	<i>Quassia amara</i>
<i>Copaifera officinalis</i>	— <i>simarouba</i>
<i>Coriandrum officinale</i>	— <i>excelsa</i>
— <i>testiculatum</i>	<i>Quercus suber</i>
<i>Curcuma longa</i>	<i>Rheum compactum</i>
<i>Cycas revoluta</i>	<i>Ricinus communis</i>
<i>Dorstenia contrayerva</i>	<i>Saccharum officinarum rubrum</i>
<i>Dracæna draco</i>	<i>Sesamum indicum</i>
<i>Epidendrum vanilla</i>	— <i>orientale</i>
<i>Fraxinus rotundifolia</i>	<i>Smilax sarsaparilla</i>
— <i>ornus</i>	<i>Thea viridis</i>
<i>Gossypium arboreum</i>	— <i>Bohea</i>
— <i>hirsutum</i>	<i>Theobroma cacao-Caraccas.</i>
— <i>religiosum</i>	ESCULENTS
<i>Guaiacum officinale</i>	<i>Alpinia globulifera (Maranta ?)</i>
— <i>sanctum</i>	<i>Amaranthus viridis</i>
<i>Hæmatoxylon campechianum</i>	— <i>caudatus</i>
<i>Kæmpferia galanga</i>	— <i>melancholicus</i>
<i>Laurus cinnam</i>	<i>Arachis hypogea</i>
— <i>cassia</i>	<i>Areca oleracea</i>
— <i>camphora</i>	— <i>alpina</i>
— <i>sassafras</i>	<i>Artocarpus incisus</i> Otaheite
<i>Mimosa nilotica</i>	— <i>E. Indies</i>
— <i>Senegal</i>	— <i>seminifer</i>
— <i>catechu</i>	<i>Arum esculentum</i>
<i>Morus tinctoria</i>	— <i>sagittifolium</i>
	<i>Canna indica</i>

*Canna indica*, floribus maculatis    *Sicyos edulis*  
*Cleome pentaphylla*    *Tacca pinnatifolia*  
*Cocos aculeatus*    *Zizania palustris*  
*Convulvulus batatas*  
 ———— *esculentus*

*Cucurbita pepo*  
 ———— *verrucosa*  
*Cytisus cajan*  
*Dioscorea sativa*  
 ———— *alata*  
 ———— *bulbifera*  
 ———— *quinqueloba*

*Dolichos unguiculatus*  
 ———— *uncinatus*  
 ———— *purpureus*  
 ———— *tuberosus*

*Glycine subterranea*  
*Helianthus tuberosus*  
*Hibiscus esculentus*  
 ———— *sabdariffa*

*Holcus saccharatus*  
 ———— *sorgum*

*Jatropha manihot*  
*Musa paradisiaca.*    Otaheite.  
*Myrosma tuberosa*

*Oryza sativa*  
*Paripou Palm*  
*Phaseolus lunatus*

———— *max*  
 ———— *glaber*

*Pistacia terebinthus*  
*Ravenala edulis*  
*Solanum melongenum*  
 ———— *lycopersicon*

## MEDICINAL.

*Abrus precatorius*  
*Allamanda cathartica*  
*Amomum sylvestre*  
 ———— *racemosum*  
*Amyris ambrosiaca*  
*Andropogon schœnanthus*  
 ———— *insulare*

*Argemone Mexicana*  
*Asclepias curassavica*  
 ———— *gigantea*

*Ballota suaveolens*  
*Begonia obliqua*  
*Bignonia alliacea*  
 ———— *ophthalmica*  
 ———— *capreolata*

*Bocconia frutescens*  
*Bombax ceiba*  
*Capsicum baccatum*  
 ———— *frutescens*

*Cassia occidentalis*  
 ———— *bicapsularis*  
 ———— *tora*

———— *herpetica*  
*Chenopodium anthelminticum*  
 ———— *multifidum*

*Clinopodium rugosum*  
*Chiococca racemosa*  
*Cissampelos pareira*  
*Cissus cordifolia*

<i>Clusia alba</i>	<i>Ocymum americanum</i>
—— <i>flava</i>	<i>Pancratium cainbœum</i>
<i>Commelina communis</i>	<i>Parthenium hysterophoros</i>
<i>Convolvulus brasiliensis</i>	<i>Passiflora murucuja</i>
<i>Conyza lobata</i>	———— <i>lutea</i>
<i>Costus spicatus</i>	<i>Paullinia pinnata</i>
<i>Croton flavens</i>	<i>Petiveria alliacea</i>
———— <i>argenteum</i>	<i>Phytolacca icosandra</i>
<i>Dolichos pruriens</i>	<i>Picramnia antidesma</i>
<i>Eryngium fœtidum</i>	<i>Piper Amalogo</i>
<i>Eupatorium nervosum</i>	—— <i>reticulatum</i>
<i>Euphorbia thymifolia</i>	—— <i>decumanum</i>
<i>Galega officinalis</i>	—— <i>obtusifolium</i>
<i>Gardenia genipa</i>	—— <i>pellucidum</i>
<i>Geoffrea inermis</i>	<i>Plumbago scandens</i>
<i>Guilandina bonduc</i>	<i>Plumeria rubra</i>
<i>Heliconia bihai</i>	———— <i>alba</i>
<i>Heliotropium indicum</i>	<i>Poinciana pulcherrima</i>
<i>Hura crepitans</i>	<i>Rauwolfia nitida</i>
<i>Jatropha curcas</i>	<i>Rosmarinus officinalis</i>
———— <i>millefida</i>	<i>Ruellia tuberosa</i>
———— <i>gossypifolia</i>	<i>Ruta graveolens</i>
<i>Ilex vomitoria</i>	<i>Scoparia dulcis</i>
<i>Iris martinicensis</i>	<i>Securidaca scandens</i>
<i>Justicia pectoralis</i>	<i>Sisyrinchium latifolium</i>
—— <i>procumbens</i>	<i>Smilax china</i>
<i>Lantana involucrata</i>	—— <i>laurifolia</i>
<i>Lobelia siphilitica</i>	<i>Spilanthus salivaria</i>
—— <i>assurgens</i>	—— <i>urens</i>
<i>Melissa officinalis</i>	<i>Solanum triste</i>
<i>Mimosa pudica</i>	———— <i>racemosum</i>
<i>Momordica charantia</i>	<i>Spigelia anthelmantica</i>
<i>Nepeta pectinata</i>	<i>Tournefortia volubilis</i>
<i>Nerium antidysentericum</i>	<i>Triumfetta Bartramia</i>
	<i>Triumfetta</i>

*Triumfetta lappula*  
*Vandellia diffusa*  
*Verbena jamaicensis*  
*Waltheria americana*

## IN ECONOMY.

*Agave americana*  
 ——— *vivipara*  
 ——— *cubensis*  
*Alpinia altissima*  
*Amyris elemifera*  
 ——— *balsamifera*  
*Andropogon bicornis*  
*Arundo donax*  
*Bignonia paniculata*  
*Boerhavia diffusa*  
*Bromelia pitta*  
*Capraria biflora*  
*Carapa guianensis*  
*Carthamus tinctorius*  
*Cecropia peltata*  
*Ceratonia siliqua*  
*Cordia dichotoma*  
*Crescentiacujete*  
*Cucurbita lagenaria*  
*Daphne occidentalis*  
*Erythrina corolladendrum*  
 ——— *excelsa*  
*Elais guineensis*  
*Ficus tinctoria*  
*Galega toxicaria*  
*Gleditsia triacanthos*  
*Gomutu, E. India Palm*  
*Gouania scandens*  
*Guilandina moringa*

*Hibiscus tiliaceus*  
*Hippomane biglandulosa*  
*Isatis tinctoria*  
*Maranta arundinacea*  
*Mimosa unguis cati*  
 ——— *tortuosa*  
 ——— *eburnea*  
 ——— *ceratonia*  
 ——— *tamarindifolia*  
 ——— *intsia*  
*Momordica operculata*  
*Morus papyrifera*  
*Myristica americana*  
*Ochroma lagopus*  
*Oxalis frutescens*  
*Pandanus odoratissimus*  
*Parkinsonia aculeata*  
*Phaseolus mungo*  
*Phormium tenax*  
*Piscidia erythrina*  
*Pisonia aculeata*  
*Poinciana coriaria (cæsalpinia)*  
*Prunus noyveau*  
*Pterocarpus draco*  
*Rhizophora mangle*  
*Sapindus saponaria*  
*Sida indica*  
 ——— *alnifolia*  
*Theobroma Guazuma*  
*Trixis toxicaria*  
*Vitex trifolia*  
*Volkameria aculeata*  
*Zanthoxylon clava Herculis*  
 ——— *tinctorium*

## VALUABLE WOODS.

<b>Adelia arborea</b>	<b>Juniperus virginiana</b>
<b>Amerimnon album</b>	<b>Laugeria excelsa</b>
<b>Arundo bambos</b>	<b>Laurus paniculata</b>
----- <b>spinosa</b>	----- <b>borbonia</b>
<b>Avicennia tomentosa</b>	----- <b>salicifolia</b>
<b>Bactris clavata</b>	----- <b>caribæa</b>
<b>Bignonia Leucoxylon</b>	----- <b>nigra</b>
----- <b>pentaphylla</b>	<b>Mimosa peregrina</b>
----- <b>serratifolia</b>	----- <b>lebbeck</b>
----- <b>monophylla</b>	----- <b>odoratissima</b>
<b>Bucida buceras</b>	----- <b>arborea</b>
<b>Bumelia nigra</b>	----- <b>grandis</b>
----- <b>latifolia</b>	<b>Myrodia turbinata</b>
----- <b>excelsa</b>	----- <b>patens</b>
----- <b>tomentosa</b>	<b>Myrtus latifolia</b>
<b>Cæsalpinia cristata</b>	----- <b>crassifolia</b>
<b>Calophyllum calaba</b>	<b>Parivoa grandiflora</b>
----- <b>acuminatum</b>	<b>Pinus sylvestris</b>
<b>Cedrela odorata</b>	<b>Piratinera guianensis</b>
<b>Chrysophyllum glabrum</b>	<b>Polypodium arboreum</b>
<b>Citharexylon cinereum</b>	<b>Possira simplex</b>
----- <b>quadrangulare</b>	----- <b>cauliflora</b>
<b>Coccoloba pubescens</b>	<b>Petrocarya exsucca</b>
<b>Cordia Geraschanthus</b>	<b>Quercus robur</b>
<b>Coumaroriuna odorata</b>	----- <b>rubra</b>
<b>Cupressus disticha</b>	----- <b>alba</b>
<b>Diospyros ebenum ?</b>	----- <b>nigra</b>
<b>Hernandia sonora</b>	----- <b>phellos</b>
----- <b>ovigera</b>	----- <b>sempervirens</b>
<b>Hippomane mancinella</b>	<b>Robinia pseudacacia</b>
<b>Hymenæa curbaril</b>	----- <b>violacea</b>
<b>Juglans alba</b>	<b>Sophora arborea</b>
<b>Juniperus bermudiana</b>	<b>Sterculia fœtida</b>
	----- <b>platanifolia</b>

Sturculea

*Sterculia ivira*----- *hirsuta**Swietenia mahagoni**Tectona grandis**Tetraptera aceroides**Theobroma caribæa**Trichilia arborea**Vitex divaricata**Vouapa simiri*

## FRUITS.

*Achras sapota*----- *mammosa*----- *argentea**Adansonia digitata**Aleurites triloba**Anacardium occidentale**Annona muricata*----- *reticulata*----- *tuberculata*----- *cherymoa**Artocarpus integrifolius**Averrhoa bilimbi*----- *carambola**Bagassa guianensis**Blakea cauliflora*----- *racemosa**Bromelia pinguin*----- *karatas**Cactus melocactus*----- *grandiflorus*----- *triangularis*----- *pereskia**Carica papaya.* Africa*Carolinea princeps**Chrysobalanus icaco*----- *microcarpa**Chrysophyllum cainito**Cicca disticha**Citrus aurantium*----- *decumanum*----- *medica*----- *myrtoides**Coccoloba uvifera*----- *barbadensis**Cookia grossularoides**Cocos nucifera**Cuma guianensis**Cratæva capparoides**Dialium guineense**Diospyros lotus**Duroia eriopila*----- *glabra**Eugenia malaccensis*----- *jambos*----- *floribunda*----- *uniflora*----- *tainitensis**Ficus carica*----- *beughalensis*----- *trigona**Jambolifera pedunculata**Inocarpus edulis**Juglans sativa**Laurus persea**Macoubea guianensis**Malpighia glabra*----- *lucida*----- *urens*

Mammea americana	Exotics, curious or ornamental.
Melicocca bijuga	
———— dioica	Abroma augusta
Mimosa fagifolia	Acrostichum rhizophyllum
———— inga	Agave soboliflora
———— farinosa	Ægiphila martinicensis
Mangifera indica	———— manabea
Mouriri lucida	———— scandens
Musa sapientum rubra. Ota-	Adelia acidoton
heite	Adenanthera pavonina
Omphalea diandra	Æschynomene grandiflora
Parinari montana	———— sesban
Passiflora laurifolia	———— indica
———— quadrangularis	———— aculeata
———— maliformis	———— sensitiva
———— foetida	Aletris hyacinthoides
Pekea tuberculata	Allophyllus racemosus
———— trifolia	Alpinia grandifolia
Phoenix dactylifera	———— dichotoma
Psidium maliforme	———— capitata
———— guianense	———— maculata
———— aromaticum	———— polystachia
———— polycarpon	———— hirsuta
Punica granatum	Althæa racemosa
Rhamnus jujuba	Alstromeria salsilla
Saouari glabra	Amaryllis belladonna
Sorbus domestica	———— formosissima
Spondias mombin	———— longifolia
———— myrobalanus	———— humilis
———— dulcis	———— sarniensis
Tamarindus indica	———— vittata
Terminalia catappa	———— aurea
Ximenia americana	———— atamasco

Amerimnor.

Amerimnon latifolium	Arum lingulatum
———— flexuosum	———— hederaceum
———— volubile	———— bicolor
Amomum mioga	———— repandum
Amorpha fruticosa	———— hastatum
Andromeda paniculata	Asclepias viminalis
Anethum graveolens	———— repanda
———— sowa	Asphodelus fistulosus
Anguria heterophylla	Asplenium soboliferum
———— glandulosa	Aster divaricatus
Anisophyllum pinnatum	———— dumosus
Anthemis chîa	———— vernus
Aukuba japonica	Athanasia annua
Annona asiatica	Atrogene austriaca
———— palustris	Atropa arborescens
———— exsucca	———— physaloides
Apalatoa spicata	Azalea rosea
———— aptera	Bactris minor
Apeiba tibourbou	———— sagittata
Aralia capitata	———— gracilis
———— heterophylla	Bannisteria laurifolia
Ardisia clusiæfolia	———— chrysophylla
———— punctata	———— nitida
———— pulchella	———— latifolia
———— parasitica	———— dichotoma
Areca catechu	———— cordifolia
Aristolochia glandulosa	———— villosa
Arctotis tristis	———— mutica
Arethusa lucida	———— purpurea
———— picta	Basella alba
———— pusilla	———— rubra
Arum arboreum	Bauhinia divaricata
———— seguinum	———— variegata
———— maximum	———— tomentosa
———— fœtidum	———— aculeata

<i>Begonia glabra</i>	<i>Brownea speciosa</i>
----- <i>hirsuta</i>	<i>Bryonia laciniosa</i>
<i>Bellis maritima</i>	<i>Buttneria aculeata</i>
<i>Berteria guianensis</i>	----- <i>latifolia</i>
<i>Besleria melittifolia</i>	<i>Cacalia coccinea</i>
----- <i>lutea</i>	<i>Cactus phyllanthus</i>
----- <i>serrulata</i>	----- <i>tetragonus</i>
----- <i>cristata</i>	----- <i>heptagonus</i>
----- <i>trinervia</i>	----- <i>peruvianus</i>
----- <i>corymbosa</i>	----- <i>pendulus</i>
----- <i>pulchella</i>	<i>Cæsalpinia sappan</i>
<i>Betula alnus</i>	<i>Canna glauca</i>
<i>Bignonia catalpa</i>	<i>Casearia ramiflora</i>
----- <i>æquinoctialis</i>	----- <i>nitida</i>
----- <i>pubescens</i>	----- <i>crenata</i>
----- <i>crucigera</i>	----- <i>undulata</i>
----- <i>echinata</i>	<i>Calamus raphia</i>
----- <i>glandulosa</i>	<i>Calinea dioica</i>
----- <i>argentea</i>	<i>Calycanthus florida</i>
----- <i>stipulacea</i>	<i>Camellia japonica</i>
----- <i>ramiflora</i>	<i>Cananga laurifolia</i>
----- <i>inflata</i>	<i>Capparis cynophalaphora</i>
----- <i>punctata</i>	----- <i>tortuosa</i>
----- <i>tubulosa</i>	----- <i>breynia</i>
----- <i>fluviatilis</i>	----- <i>frondosa</i>
----- <i>stans</i>	----- <i>jamaicensis</i>
----- <i>incisa</i>	<i>Cardiospermum fruticosum</i>
----- <i>radicans</i>	<i>Caryota urens</i>
----- <i>indica</i>	<i>Cassia viminea</i>
----- <i>filicifolia</i>	----- <i>bacillaris</i>
<i>Blakea trinervia</i>	----- <i>sopha</i>
<i>Blechnum heptaphyllum</i>	----- <i>glauca</i> . <i>E. Indies</i>
<i>Bombax carolineoides</i>	----- <i>planisiliqua</i>
<i>Bontia daphnoides</i>	----- <i>bracteata</i>
<i>Bromelia polystachia</i>	----- <i>floribunda</i>

Cassia

Cassia chamæcrista	Clematis florida
—— pentagona	Clitoria ternatea
—— mollis	—— erecta
—— grandis	—— arborea
Casine maurocenia	Clinopodium graveolens
Casuarina equisetifolia	—— procumbens
—— torulosa	—— repens
Ceanothus africanus	Clerodendron infortunatum, flor.
Celosia cristata	plenis
—— paniculata	Clusia rosea
—— castrensis	—— multiflora
—— carnosa	Coccopsilum violaceum
Celtis lima	Coffea occidentalis
Centaurea crupina	Combretum laxum
Cephaelis muscosa	—— decandrum
—— tomentosa	Columnnea scandens
Cerbera thevetia	Colutea frutescens
Cerinthe minor	Comocladia ilicifolia
—— miculata	Couceveiba guianensis
Cestrum diurnum	Conocarpus erecta
—— vespertinum	—— racemosa
—— laurifolium	Convulvulus speciosus
Chelone barbata	—— maximus
Chimarrhis cymosa	—— malabaricus
Chiococca bahamensis	—— maculatus
Chionanthus caribæa	—— bicolor
Chomelia spinosa	—— flavus
Chrysanthemum indicum	—— parviflorus
—— tricolor	—— quinquefolius
Chrysophyllum argenteum	—— pentaphyllum
Cipura paludosa	—— heptaphyllum
Cissus trifoliatus	—— dissectus
Cleome viscosa	—— repens
—— spinosa	—— martinicensis

Conyza

<i>Conyza arborescens</i>	<i>Croton aromaticum</i>
—— <i>trinervia</i>	—— <i>fœtens</i>
—— <i>alata</i>	—— <i>punctatum</i>
<i>Corchorus fruticosus</i>	—— <i>gossypifolium</i>
—— <i>olitorius</i>	—— <i>pallens</i>
—— <i>capsularis</i>	—— <i>polygamum</i>
<i>Cordia macrophylla</i>	—— <i>trilobum</i>
—— <i>sebestena</i>	<i>Cupania americana</i>
—— <i>juglandifolia</i>	—— <i>macrophylla</i>
—— <i>virgata</i>	<i>Curatella americana</i>
<i>Coreopsis reptans</i>	<i>Cynanchum maritimum</i>
—— <i>chrysantha</i>	—— <i>hirtum</i>
<i>Cornus florida</i>	—— <i>suberosum</i>
<i>Cornutia pyramidata</i>	—— <i>latifolium</i>
<i>Coronilla scandens</i>	<i>Cytisus tomentosus</i>
<i>Corypha frondosa</i>	<i>Dalbergia procumbens</i>
<i>Costus arabicus</i>	—— <i>caudata</i>
—— <i>speciosus</i>	<i>Daphne cneorum</i>
—— <i>malaccensis</i>	—— <i>collina</i>
<i>Couratari guianensis</i>	<i>Datura fastuosa</i>
<i>Cratæva capparoides</i>	—— <i>tatula</i>
<i>Crescentia cucurbitina</i>	<i>Dianella cærulea</i>
<i>Crinum americanum</i>	<i>Digitalis obscura</i>
—— <i>asiaticum</i>	<i>Dipsacus lacinatus</i>
—— <i>zeylanicum</i>	<i>Dioscorea vivipara</i>
<i>Crotalaria arborea</i>	—— <i>filiformis</i>
—— <i>laburnifolia</i>	—— <i>guianensis</i>
—— <i>verrucosa</i>	—— <i>rajanoides</i>
—— <i>retusa</i>	<i>Diospyros tetrasperma</i>
—— <i>incanescens</i>	—— <i>inconstans</i>
—— <i>chinensis</i>	<i>Dodonæa viscosa</i>
—— <i>procumbens</i>	—— <i>triquetra</i>
—— <i>lateriflora</i>	<i>Dolichos lablab</i>
—— <i>alata</i>	—— <i>lignosus</i>

**Dolichos**

<i>Dolichos roseus</i>	<i>Epidendrum corymbosum</i>
——— <i>spicatus</i>	——— <i>proliferum</i>
——— <i>acinaciformis</i>	——— <i>nutans</i>
——— <i>grandiflorus</i>	——— <i>difforme</i>
<i>Doecas surinamensis</i>	——— <i>uniflorum</i>
<i>Dorstenia cordifolia</i>	——— <i>multiflorum</i>
<i>Dracæna ferrea</i>	<i>Eranthemum semperflorens</i>
<i>Dracontium pertusum</i>	<i>Ehretia tinifolia</i>
——— <i>palmæfolium</i>	——— <i>bourrerina</i>
——— <i>scandens</i>	——— <i>exsucca</i>
<i>Echites undulata</i>	<i>Euphorbia tithymaloides</i>
——— <i>umbellata</i>	——— <i>cotinifolia</i>
——— <i>nutans</i>	——— <i>lathyrus</i>
——— <i>biflora</i>	——— <i>dichotoma</i>
<i>Ekebergia capensis</i>	——— <i>glauca</i>
<i>Elais americana</i>	——— <i>antiquorum</i>
<i>Elaphrum laurifolium</i>	——— <i>neriifolia</i>
——— <i>trifolium</i>	<i>Erithalis fruticosa</i>
<i>Embothrium adiantifolium</i>	——— <i>alpina</i>
<i>Epidendrum vanilloides</i>	<i>Erythrina crista galli</i>
——— <i>altissimum</i>	——— <i>carnea</i>
——— <i>carthaginense</i>	<i>Eythroxylon havanense</i>
——— <i>coccineum</i>	——— <i>distichum</i>
——— <i>speciosum</i>	<i>Ethulia sparganaphora</i>
——— <i>umbellatum</i>	——— <i>bidentis</i>
——— <i>ramosum</i>	<i>Eucomis punctata</i>
——— <i>elongatum</i>	<i>Eupatorium dalea</i>
——— <i>satyrioides</i>	——— <i>corymbosum</i>
——— <i>lineare</i>	——— <i>scandens</i>
——— <i>cochleatum</i>	——— <i>secundum</i>
——— <i>cucullatum</i>	<i>Eugenia barbadensis</i>
——— <i>spatulatum</i>	——— <i>ramiflora</i>
——— <i>nocturnum</i>	——— <i>glauca</i>
——— <i>ciliare</i>	——— <i>baruensis</i>

Exacum

<i>Exacum guianense</i>	<i>Gesneria coccinea</i>
<i>Fagara myrtoidea</i>	<i>Glycine caribæa</i>
<i>Fraxinus crispæ</i>	——— <i>picta</i>
——— <i>lentiscifolia</i>	——— <i>rubicunda</i>
<i>Ficus retusa</i>	——— <i>bimaculata</i>
——— <i>religiosa</i>	<i>Gomphia nitida</i>
——— <i>indica</i>	<i>Grewia pilosa</i>
——— <i>americana</i>	<i>Guettarda speciosa</i>
——— <i>linifolia</i>	——— <i>scabra</i>
——— <i>virens</i>	——— <i>lucida</i>
——— <i>racemosa</i>	——— <i>salicifolia</i>
——— <i>pertusa</i>	——— <i>macrophylla</i>
——— <i>rigida</i>	<i>Gustavia augusta</i>
——— <i>hirsuta</i>	<i>Gypsophila perfoliata</i>
——— <i>glauca</i>	<i>Hamellia coccinea</i>
<i>Fuchsia coccinea</i>	——— <i>chrysantha</i>
<i>Galega caribæa</i>	——— <i>corymbosa</i>
——— <i>purpurea</i>	<i>Hedyosmum articulatum</i>
——— <i>virginiana</i>	<i>Hedysarum latifolium</i>
——— <i>dichotoma</i>	——— <i>gangeticum</i>
——— <i>hirsuta</i>	——— <i>vespertilionis</i>
<i>Gardenia florida, flor. simpli-</i>	——— <i>gyrans</i>
<i>cibus</i>	——— <i>bupleurifolium</i>
——— <i>flor. plenis</i>	——— <i>linifolium</i>
——— <i>thunbergia</i>	——— <i>lagopodioides</i>
——— <i>crinita</i>	——— <i>glomeratum</i>
——— <i>armata</i>	——— <i>altissimum</i>
——— <i>rania</i>	——— <i>triquetrum</i>
——— <i>aculeata</i>	<i>Helicteres isora</i>
——— <i>dumetorum</i>	——— <i>baruensis</i>
——— <i>longiflora</i>	<i>Heliconia marantifolia</i>
——— <i>microphylla</i>	——— <i>psittacorum</i>
<i>Gentiana coutoubea</i>	——— <i>flexuosa</i>
<i>Gesneria tomentosa</i>	——— <i>hirsuta</i>

Heliconia

<i>Heliconia glauca</i> (caribæa)	<i>Jacquinia armillaris</i>
<i>Heliotropium gnaphaloides</i>	<i>Jasminum officinale</i>
———— fruticosum	———— sambac, flor. plenis
<i>Hemerocallis flava</i>	———— simplicifolium
———— alba	———— azoricum
<i>Hemionitis palmata</i>	<i>Jatropha urens</i>
<i>Hibiscus rosasinensis</i> , flor. simp.	———— procumbens
———— flor. plenis	<i>Indigofera hirsuta</i>
———— mutabilis flor. plenis	<i>Ipomæa repanda</i>
———— gangeticus	———— carnea
———— rugosus	———— bona nox
———— diversifolius	———— filiformis
———— vesicarius	———— coccinea
———— trionum	———— speciosa
———— abelmoschus	———— umbellata
———— vitifolius	———— tuberosa
———— ficulneus	———— macrophylla
———— radiatus	———— grandiflora
———— manihot	———— quamoclit, flor. coccin-
———— cannabinus	neis
———— heterophyllus	———— flor. albis
———— hispidulus	<i>Iris chinensis</i>
———— turbinatus	———— versicolor
———— spinifex	———— virginiana
<i>Hillia parasitica</i>	<i>Itea cyrilla</i>
<i>Hirtella americana</i>	<i>Justicia nitida</i>
———— paniculata	———— picta
<i>Hippocratea scandens</i>	———— coccinea
<i>Hoffmannia pedunculata</i>	———— speciosa
<i>Hydrolea spinosa</i>	———— pulcherrima
<i>Hypericum monagnum</i>	———— carthaginensis
———— barbatum	———— paniculata (secunda)
———— latifolium	———— umbellata
———— guianense	———— spinosa

<i>Ixia chinensis</i>	<i>Linum narbonense</i>
<i>Ixora coccinea</i>	——— strictum
——— alba	<i>Lisianthus glaber</i>
——— secunda	——— chelonoides
<i>Kæmpferia coronaria</i>	<i>Limonia triphylla</i>
<i>Kitaibela vitifolia</i>	——— mauritanica
<i>Kœlreuteria paniculata</i>	<i>Liquidambar styraciflua</i>
<i>Lagerstroemia flos reginæ</i>	<i>Liparia pinnata</i>
<i>Lantana radula</i>	<i>Lobelia surinamensis</i>
——— camara	——— racemosa
——— aculeata	<i>Lycium japonicum</i> , flor. plenis
——— bullata	<i>Lygeum spartum</i>
——— annua	<i>Macrocnemum coccineum</i>
<i>Latania. Palm</i>	<i>Magnolia cœrulea</i>
<i>Laurus nobilis</i>	<i>Malachra radiata</i>
——— indica	<i>Malanea sarmentosa</i>
——— fulgens	<i>Malpighia nitida</i>
——— verticillata	——— mourila
——— ecalyculata	——— crassifolia
<i>Lavenia decumbens</i>	——— coriacea
<i>Lawsonia inermis</i>	——— coccigera
——— spinosa	<i>Malvaviscus populneus</i>
<i>Lecythis bracteata</i>	<i>Mammea littoralis</i>
<i>Ligusticum levisticus</i>	——— verrucosa
<i>Leonurus marrubiastrum</i>	<i>Manettia coccinea</i>
——— tataricus	——— alba
<i>Legnotis elliptica</i>	<i>Maranta sylvestris</i>
<i>Ligustrum vulgare</i>	<i>Margravia umbellata</i>
<i>Limodorum Tankervillæ</i>	<i>Marila racemosa</i>
——— altum	——— speciosa
——— palmæfolium	<i>Medicago scutellata</i>
——— corniculatum	——— orbiculata
——— spathaceum	——— aculeata
——— parasiticum	——— hispida

Medicago

<i>Medicago coronata</i>	<i>Mimosa decurrens</i>
<i>Melaleuca linarifolia</i>	— <i>glauc</i>
— <i>obliqua</i>	— <i>conglomerata</i>
<i>Melastoma acinodendron</i>	— <i>entada</i>
— <i>holosercea</i>	— <i>scandens</i>
— <i>quadrangularis</i>	— <i>palustris</i>
— <i>hirta</i>	— <i>longifolia</i>
— <i>lanata</i>	— <i>casta</i>
— <i>decussata</i>	— <i>sensitiva</i>
— <i>spatulata</i>	— <i>argentea</i>
— <i>biflora</i>	— <i>bahamensis</i>
— <i>umbellata</i>	— <i>quadrivalvi</i>
— <i>elegans</i>	— <i>asperata</i>
— <i>tamonea</i>	— <i>eglandulata</i>
— <i>agrestis</i>	— from Botanay Bay
— <i>argentea</i>	Do.
— <i>spicata</i>	Do.
— <i>fragilis</i>	Do.
— <i>ciliata</i>	<i>Metrosideros lanceolata</i>
— <i>triphylla</i>	<i>Menyanthes indica</i>
— <i>grandifolia</i>	<i>Mirabilis jalapa, alba flava pur-</i>
<i>Melia azederach</i>	— <i>purea</i>
<i>Melvilla speciosa</i>	— — <i>longiflora</i>
<i>Menispermum carolinianum</i>	<i>Moquilea guianensis</i>
<i>Microtea debilis</i>	<i>Monnieria trifolia</i>
<i>Mimosa latifolia</i>	<i>Morea iridioides</i>
— — <i>jugata</i>	<i>Morus hybrida</i>
— <i>tergemina</i>	— <i>rubra</i>
— <i>purpurea</i>	— <i>tatarica</i>
— <i>plena</i>	<i>Mullera moniliformis</i>
— <i>virgata</i>	<i>Muntingia calabura</i>
— <i>vespertina</i>	<i>Myginda rhacoma</i>
— <i>latisiliqua</i>	— <i>latifolia</i>
— <i>angustifolia</i>	— <i>myrtoides</i>

Myginda

<i>Myginda retusa</i>	<i>Panax attenuata</i>
—— lineata	<i>Pancratium amboinense</i>
<i>Myrobalanus fertilis</i>	<i>Parivoa tomentosa</i>
<i>Myrospermum elegans</i>	<i>Paullinia asiatica</i>
<i>Myrsine africana</i>	—— glauca
—— retusa	—— punctata
<i>Myrtus communis, latifolia et</i>	—— capsularis
angustif.	—— vespertilionis
—— fragrans	—— multiflora
—— virgultosa	—— biflora
—— disticha	—— cærulea
—— crenulata	—— serrata
—— buxifolia	<i>Pelargonium capitatum</i>
—— obtusifolia	—— grossularioides
—— cerasina	—— zonale
—— mini	<i>Pentapetes phœnicea</i>
—— lucida	<i>Petræa volubilis</i>
—— ramiflora	—— erecta
—— paniculata	<i>Pittosporum lanceolatum</i>
<i>Nerium oleander, rubrum et alb.</i>	<i>Petrocarya rigida</i>
<i>Nigella sativa</i>	<i>Phaseolus caracalla</i>
—— damascena	—— vexillatus
<i>Ocimum gratissimum</i>	—— lathyroides
—— album	—— aconitifolius
—— tenuiflorum	<i>Phoenix farinifera</i>
—— thyrsoiflorum	<i>Phyllanthus racemosus</i>
<i>Olea fragrans</i>	—— conami
<i>Onopordum illyricum</i>	—— longifolia
<i>Oenothera grandiflora</i>	—— mimosoides
—— purpurea	—— glauca
<i>Ophioglossum scandens</i>	<i>Plumeria obtusa</i>
<i>Origanum majoranoides</i>	—— pudica
<i>Oxalis frutescens</i>	<i>Piper geniculatum</i>
<i>Panax morototoni</i>	—— verrucosum

Piper

<i>Piper aduncum</i>	<i>Prunus pensylvanica</i>
— <i>peltatum</i>	— <i>virginiana</i>
— <i>argenteum</i>	<i>Psoralea corylifolia</i>
— <i>malamiri</i>	<i>Psychotria repens</i>
— <i>verticillatum</i>	— <i>herbacea</i>
— <i>acuminatum</i>	— <i>parasiitica</i>
— <i>trinervium</i>	— <i>argentea</i>
<i>Pistia stratiotes</i>	— <i>citrifolia</i>
<i>Pitcairnia angustifolia</i>	— <i>crocea</i>
— <i>- racemosa flava et coc-</i>	— <i>laurifolia</i>
— <i>cinea</i>	— <i>glabrata</i>
<i>Platylobium hieracifolium</i>	— <i>nervosa</i>
<i>Plumbago rosea</i>	— <i>macrophylla</i>
<i>Plukenetia volubilis</i>	<i>Pultenæa stipularis</i>
<i>Pisonia inermis</i>	<i>Pyrus polveria</i>
— <i>coccinea</i>	<i>Rauwolfia scandens</i>
<i>Podalyria latifolia</i>	<i>Rhamnus theezans</i>
<i>Populus nigra</i>	— <i>trinervis</i>
<i>Poterium sanguis orba</i>	— <i>gynandra</i>
<i>Pothos acaulis</i>	<i>Rhexia hypericoides</i>
— <i>odorata</i>	— <i>hirsuta</i>
— <i>lanceolata</i>	— <i>bicolor</i>
— <i>cordifolia</i>	— <i>geniculata</i>
— <i>crassinervia</i>	— <i>glomerata</i>
— <i>palmata</i>	— <i>palustris</i>
<i>Portulaca triangularis</i>	<i>Rhododendron ponticum</i>
— <i>pilosa</i>	<i>Rhus toxicodendron</i>
— <i>uniflora</i>	— <i>lucidum</i>
— <i>paniculata</i>	— <i>australe</i>
<i>Posoqueria longiflora</i>	<i>Rivina octandra</i>
<i>Prockia crucis</i>	<i>Robinia nicot</i>
<i>Pterocarpus ecastaphyllus</i>	— <i>candida</i>
— <i>lunatus</i>	— <i>littoralis</i>
<i>Prinos glaber</i>	<i>Rondeletia americana</i>
	P <span style="float: right;">Rondeletia</span>

<i>Rondeletia arborea</i>	<i>Serrulata anthelminthia</i>
<i>Rolandra argentea</i>	<i>Sida periplocifolia</i>
<i>Rosa semperflorens</i>	---- <i>atrosanguinea</i>
<i>Rubus fruticosus</i>	---- <i>cristata</i>
<i>Rudbeckia triloba</i>	---- <i>secunda</i>
----- <i>caribæa</i>	---- <i>multiflora</i>
<i>Ruellia ciliaris</i>	---- <i>cistoides</i>
<i>Rumex aureus</i>	<i>Sideritis montana</i>
----- <i>dentatus</i>	<i>Sideroxylon dioicum</i>
----- <i>vesicarius</i>	<i>Sideroxyloides ferreum</i>
<i>Ryania speciosa</i>	<i>Silene rubella</i>
<i>Sagittaria sagittifolia</i>	----- <i>viridiflora</i>
<i>Sagus</i> ? <i>Palm</i>	<i>Siphonanthus indica</i>
<i>Salix babylonica</i>	<i>Sloanea dentata</i>
<i>Salvia coccinea</i>	<i>Solanum laurifolium</i>
----- <i>pseudococcinea</i>	----- <i>verbascifolium</i>
----- <i>dominica</i>	----- <i>bombense</i>
----- <i>nilotica</i>	----- <i>glanduliferum</i>
----- <i>hispanica</i>	----- <i>diphyllum</i>
----- <i>viridis</i>	----- <i>pulchellum</i>
----- <i>æthiopis</i>	----- <i>paniculatum</i>
----- <i>latifolia</i>	----- <i>hirtum</i>
<i>Samya serrulata</i>	----- <i>fuscatum</i>
----- <i>crenulata</i>	----- <i>triphyllum</i>
<i>Sambucus ebulus</i>	----- <i>mammosum, 5 dactylon</i>
<i>Sapindus auriculata</i>	----- <i>sessilifolium</i>
<i>Saponaria vaccaria</i>	----- <i>obscurum</i>
<i>Satyrium elatum</i>	----- <i>bahamense</i>
----- <i>spirale</i>	----- <i>polygamum</i>
<i>Saururus cernuus</i>	----- <i>flexuosum</i>
<i>Schousbœa speciosa</i>	----- <i>scandens</i>
----- <i>oppositifolia</i>	<i>Solandra grandiflora</i>
<i>Schradera elusioides</i>	<i>Sophora occidentalis</i>
<i>Sebacca aspera</i>	----- <i>tetraptera</i>

Soramia

<i>Soramia denticulata</i>	<i>Tradiscantia cristata</i>
<i>Spermacoce stricta</i>	———— umbellata
<i>Spiræa salicifolia</i>	———— erecta
———— opulifolia	———— bicolor
<i>Staphylea sambucina</i>	———— ciliata
<i>Størbe arborea</i>	<i>Tribulus cistoides</i>
<i>Styrax glabrum</i>	<i>Trichilia barbata</i>
—— fragrans	<i>Tricosanthes anguina</i>
<i>Suriana maritima</i>	<i>Trifolium officinale</i>
<i>Symphoria globulifera</i>	<i>Triopteris citrifolia</i>
<i>Symphytum officinale</i>	———— volubilis
<i>Tabernæmontana citrifolia</i>	———— acuminata
———— echinata	<i>Trixis aspera</i>
<i>Taligalea campestris</i>	—— erosa
<i>Tamarix gallica</i>	<i>Turnera ulmifolia</i>
<i>Tamonea heterophylla</i>	———— pulchella
<i>Terminalia benzoin</i>	<i>Urtica baccifera</i>
———— trinitensis	———— altissima
<i>Thrinax parviflora</i>	<i>Urena typhalæa</i>
———— acaulis	<i>Valeriana dentata</i>
<i>Thuja occidentalis</i>	<i>Vandellia erecta</i>
—— orientalis	<i>Verbascum boerhavii</i>
<i>Tillandsia utricularis</i>	———— blattaria
———— lingulata	<i>Varronia lineata</i>
———— paniculata	———— curassavica
———— monastachia	———— bullata
———— polystachia	———— annua
———— racemosa	<i>Vinea guianensis</i>
———— flexuosa	<i>Viola hybanthus</i>
———— coccinea	—— ornata
<i>Tournefortia glabra</i>	<i>Veronica filiformis</i>
———— hirsutissima	<i>Vitex capitata</i>
———— cymosa	—— guianensis
———— maculata	<i>Uniola pachiulata</i>

Volkameria mollis	Xylophyllum latifolium
Vouapa bifolia	Xiphidium album
—— pinnata	Xyris indica
Utricularia alpina	Yucca gloriosa
Uvaria longifolia	Zamia integrifolia
Wedelia frutescens	Zanthoxylon clava Herculis
Weinmannia pinnata	—— ramiflorum
Xeranthemum lucidum	Kinkina, St. Domingo, Angu-
Ximenesia insiloides	tura Bark ?

Many others, not having flowered in the garden, cannot be ascertained.

ALEXANDER ANDERSON,  
Superintendent.

PRESENTS